Bulletin

WEST CHESTER STATE COLLEGE

WEST CHESTER, PENNSYLVANIA

GRADUATE STUDIES

CATALOGUE NUMBER
1964-1965 SESSIONS

WEST CHESTER STATE COLLEGE

IS ACCREDITED BY

THE MIDDLE STATES ASSOCIATION OF COLLEGES

AND SECONDARY SCHOOLS,

THE NATIONAL COUNCIL FOR ACCREDITATION,

OF TEACHER EDUCATION,

THE AMERICAN ASSOCIATION FOR HEALTH,

PHYSICAL EDUCATION, AND RECREATION,

AND THE

NATIONAL ASSOCIATION OF SCHOOLS OF MUSIC

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WEST CHESTER STATE COLLEGE
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Bulletin

Graduate Studies

Leading to the

Master of Education Degree

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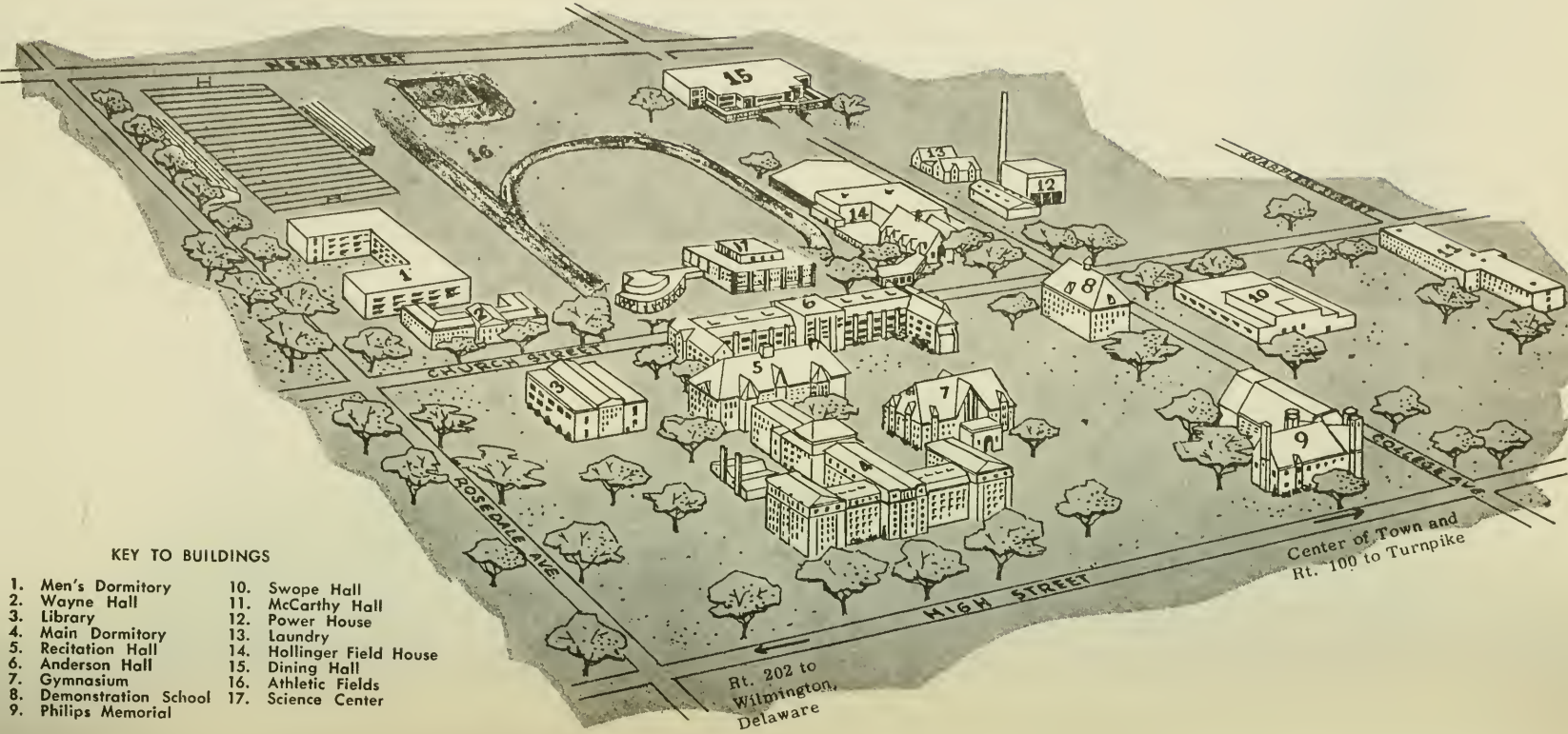
VOL. 92 No. 3

APRIL 1964
WEST CHESTER, PENNSYLVANIA

WEST CHESTER STATE COLLEGE CAMPUS



KEY TO BUILDINGS

1. Men's Dormitory
2. Wayne Hall
3. Library
4. Main Dormitory
5. Recitation Hall
6. Anderson Hall
7. Gymnasium
8. Demonstration School
9. Philips Memorial
10. Swope Hall
11. McCarthy Hall
12. Power House
13. Laundry
14. Hollinger Field House
15. Dining Hall
16. Athletic Fields
17. Science Center

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OBJECTIVES OF THE GRADUATE PROGRAM

The objectives of the graduate program at West Chester are to increase the competency of the elementary, health and physical education, music, biology, mathematics, English, geography, foreign language, physical science and social studies teacher.

More specifically, the objectives are as follows:

To permit in-service teachers to secure permanent certification.

To permit teachers to earn their Master of Education degree without interference with normal professional duties.

To afford opportunity to teachers to extend present certification.

To provide in-service teachers an opportunity to improve their position on salary schedules which recognize top-flight graduate study.

To provide students with an opportunity to pursue graduate study under well trained and experienced professors.

To provide courses for personal growth.

The **"General Information on Admissions"** section of this bulletin is your official source of information about the policies of the graduate program of the college and about procedures in earning the Master of Education Degree.

The section entitled **"Course Offerings"** contains statements of the policies and requirements of the various departments and the listings of the course offerings in those departments.

1. The complete description of the Admissions Requirements for the Master of Education Degree that you expect to earn. (page 10)

2. The paragraph entitled "Admissions to Candidacy for the Master of Education." (page 64)

3. The section on "A Summary of Requirements that must be met before the Master of Education Degree can be granted." (page 64)

4. The transfer of graduate credits. (page 13)

5. The paragraphs on:
   a. Withdrawals. (page 67)
   b. Examinations. (page 67)
   c. Advisory system. (page 68)
   d. Refunds. (page 70)
   e. Time limit for earning the degree. (page 71)
   f. Office Hours. (page 72)

THE GRADUATE STUDIES AT WEST CHESTER

On January 8, 1959, the State Council of Education of the Commonwealth of Pennsylvania formally authorized the West Chester State College to inaugurate a program of graduate studies after September 1, 1959. The Graduate Program at West Chester, therefore, was initiated with the opening of the fall semester, 1959.

The degree awarded upon successful completion of all requirements is Master of Education. Because requirements, of necessity, vary from one department to another, the student should check carefully the requirements listed under the department in which he is interested.

Any requests for information concerning admission to the Graduate Studies should be directed to the Director of Graduate Studies. Additional bulletins and application forms will be sent upon request.

ADMINISTRATION

The Graduate Program is under the direction of the administrative officers of the College; the Academic Council of the College; the Graduate Council; and the administrative officers of the Graduate Program.

The Graduate Council performs the following functions: it establishes all major policies of the administration of the program; it reviews all applications for admission, requests for special consideration, and recommendations of the major departments; it acts as the Executive Council for the college administration on all matters related to the graduate program.

The administrative officers of the Graduate Studies are the Director of Graduate Studies and the chairmen of the various departments. The chairman of each department is the administrative officer of the Graduate Program for the work of his department. The faculty advisors in the Graduate Program function directly under their respective department chairmen. Graduate students having problems in their major field should consult first their advisors who, in turn, consult with the department chairman involved.

ADMISSION REQUIREMENTS

As can be seen below, all applications for admission fall into six categories. Because of this fact, admission requirements naturally vary.

Regardless of category the applicant for graduate work at West Chester should initiate his application procedure as early as possible by writing directly to the Director of Graduate Studies. He should then execute and return all forms as early as possible. The student applying for admission with advanced standing should produce all transcripts as early as possible.

I. *Applicants for Credit Work*

An applicant for credit work is one who desires to take courses for credit toward certification or for some other valid reason.

To be admitted to credit work the applicant must meet the following requirements:

(1) The applicant must hold a bachelor's degree from a college or university accredited by national and regional accrediting association.

(2) The applicant must have an undergraduate quality point average of at least 2.5 on the basis of A—4.0, or he must be able to prove his academic competence in some other manner deemed appropriate by the Graduate Council. Generally, the Graduate Council will require applicants whose honor point average falls below 2.5 to make an acceptable grade in the Graduate Record Examination or some similar test.

(3) The applicant must evidence academic, personal and professional qualities deemed acceptable by the administrators of the graduate program and the department concerned.

(4) The applicant must be able to demonstrate clearly that he will be a stronger professional person for having pursued graduate work. Therefore, only professionally minded persons should apply for admission. Students admitted to credit work may later make application for degree candidacy by satisfying the requirements for the degree work program. In no case, however, will such students receive more than fifteen semester credits for work taken before the time of admission to candidacy. Application to pursue credit studies is subject to final approval by the Graduate Council, and the Director of Graduate Studies.

II. *Conditional Admission*

A conditional admission applicant is (1) one whose record shows deficiencies in the requirements listed for degree studies or (2) one who claims the ability to satisfy the requirements but is unable to submit supporting evidence (transcripts, records, etc.) at the time of registration.

Applicants whose records show deficiencies (courses lacking average below 2.5, etc.) may be admitted conditionally by action of the Graduate Council under the conditions stated in points No. 2 and No. 3 under "Applicants for Degree Studies."

Applicants whose records show deficiencies (courses lacking average below 2.5, etc.) may be admitted conditionally subject to final approval by the Graduate Council. In no case may such conditional admission be extended beyond one semester, and in no case may credit for course work be awarded until all supporting evidence has been evaluated by the faculty concerned.

III. *Applicants for Degree Studies*

An applicant for degree studies is one who desires to earn a master's degree at this institution.

To be admitted to degree studies, the applicant must meet the requirements listed below at the time of initial application. If the initial application is approved, the student will be granted provisional approval to work toward the degree. Final approval to work toward the degree will be granted when the student is admitted to candidacy. To be admitted to candidacy, the student should make formal application sometime between the completion of six and eight semester credits.

Admission to candidacy will be given by the major department concerned after it has required the student to pass the graduate record examinations. Approval by the major department is subject to final approval by the Graduate Council.

Initial requirements for admission to degree work follow:

(1) The applicant must hold a bachelor's degree from a college or university accredited by national and regional accrediting associations or by the appropriate accrediting agency.

(2) The applicant's undergraduate program must approximate that of this institution. If the applicant has undergraduate deficiencies, he may be admitted conditionally by action of the Graduate Council, providing (a) the deficiencies do not total more than six semester hours; (b) the applicant must earn a grade of "B" or higher in the undergraduate courses which remove the deficiency; and (c) no graduate credit may be given for removing the deficiency.

(3) The applicant must hold an undergraduate quality point average of at least 2.5, on the basis of A—4.0, or he must be able to provide his academic competence in some other manner deemed appropriate by the Graduate Council. Generally, the Graduate Council will require applicants whose honor point average fall below 2.5 to make an acceptable grade in the Graduate Record Examinations or some similar test.

(4) The applicant must evidence academic, personal and professional qualities deemed acceptable by the administrators of the graduate program and the department concerned.

(5) The applicant must be able to demonstrate clearly that he will be a stronger professional person for having pursued graduate work. Therefore, only professionally minded persons should apply for admission.

(6) The applicant may have had at least one year of full-time professional experience. In unusual cases, the Graduate Council may waive this requirement.

IV. *Applicants for Advanced Standing*

An applicant for advanced standing is one who desires to transfer credits from another graduate school.

Such credits will be honored under the following conditions: (1) the credits must have been earned at an approved graduate school; (2) the maximum number may not exceed six; (3) the course grades must be at least "B"; (4) the courses involved must be essentially the same as graduate courses offered at this institution.

All requirements beyond the stipulated maximum of six semester credits must be satisfied at this institution.

V. *Special Students*

A special student is one whose case does not fall within any of the above categories. Instances of special students are: the student who is taking work for his own edification; the student who is undecided on his final goal; the student who is taking work to be transferred to another institution; the student who is taking courses for certification only; the student who is taking work towards a "master's plus 30."

Applications of special students are considered in terms of the individual case.

VI. *Auditors*

An auditor is one who, as the term implies, takes courses as a listener. He is not permitted to take any examinations. No credit of any type will be given for courses audited. He is required to pay the same fees as those who are taking course for credit.

A student will be admitted as an auditor if the faculty of the graduate program is satisfied that his academic and professional backgrounds will enable him to pursue profitably the work of the desired course.

CREDIT BY TRANSFER

Applicants for admission with advanced standing may transfer a maximum of six semester credits from other approved graduate schools.

All transfer credits are subject to the following conditions:

1. The credits must fall within the stipulated six-year time limit noted under the heading of Residence Requirements.
2. The course grade must be at least B.
3. The courses involved must be essentially the same as those offered at this institution.

In no case will a transfer student be given credit towards satisfying any requirements other than course requirements. This statement means that students may not transfer credit of examination for Admission to Degree Candidacy or any other type of examination credit.

BIOLOGY

Candidates for the master's degree in this field must meet the general course requirements stated below. In addition, they must meet the requirements established by the Department of Science which are stated after the following outline:

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum	500	Seminar in the Humanities	2 s. c.
B.	Res	500	Methods and Materials of Research (This course is Sec. Ed. 500)	2 s. c.
C.	Edu	510	Educational Foundations	2 s. c.

II. *Area of Specialization — 18 - 24 Semester Credits*

A. Required courses in major field
B. Electives chosen under advisement

III. *Research*

The research requirement may be met in one of two ways

A. A thesis* 3 s. c.
B. A library report or essay 1 s. c.

A thesis, at the master's level, should be based on independent laboratory research and must constitute a definite contribution to the existing knowledge of the field. As a general guide to the quality and quantity of the research, it should be of such caliber as to make it acceptable for publication in one of the major periodicals concerned with the field, even though publication per se is not one of the requirements.

A library research or essay instead of laboratory research may be undertaken by graduate students. However, in this case, the student must complete a minimum of 34 s. c. instead of the 30 s. c. required of the thesis student. In general, the library project must involve the reading of original research papers. A library report based exclusively, or even in large part on textbook information will not be acceptable.

* See page 65 "Course Requirements" thirty-four hour option.

IV. *Biology Seminar* 2 s. c.

Original research, or reviews of literature on selected topics will be presented by the students in round table discussions with graduate students and faculty participating.

Minimum requirements to be met before admission to candidacy in the field of biological science are two semesters of college chemistry including one semester of organic chemistry, two semesters of college biology or general botany, and general zoology with laboratory experience. All undergraduate deficiencies must be met, prior to filing for degree candidacy.

A program of graduate courses in biological science must be selected from the electives listed below.

Required			*Semester Hours*
Bio	524	Experimental Biology	3
Bio	591	History of Biology	3

Electives			*Semester Hours*
Bio	501	Introduction to the Study of Fossils	3
Bio	502	Applications of Biological Techniques	3
Bio	503	Biological Literature	3
Bio	511	Systematic Botany	3
Bio	512	Plant Growth	3

Bio	514	Plant Pests and Diseases	3	
Bio	516	Physiology of Plants	3	
Bio	522	Man and Wildlife-Ecology and Conservation	3	
Bio	523	Resource Materials in Elementary Curriculum	3	
Bio	525	Biochemistry I and II	3	or 6
Bio	530	Genetic Theory	3	
Bio	532	Experimental Genetics	3	
Bio	533	Experimental Embryology I and II	3	or 6
Bio	539	Insect Morphology	3	
Bio	540	Medical Entomology	3	
Bio	541	Economic Entomology	3	
Bio	542	Animal Ecology	3	
Bio	543	Freshwater Biology	3	
Bio	544	Vertebrate Dissection	3	
**Bio	545	Developmental Anatomy	3	
Bio	546	Microtechnique	3	
**Bio	561	Human Heredity	3	
Bio	562	Physical Anthropology	3	
**Bio	571	Advanced Bacteriology	3	
Bio	572	Cytology	3	
Bio	573	Experimental Cellular Physiology I and II	3	or 6
Bio	574	Advanced Human Physiology I and II	3	or 6
Bio	575	Mycology: Morphology of Fungi	3	
Bio	576	Physiology of Fungi	3	
Bio	577	Experimental Physiology I and II	3	or 6
Bio	595	Elementary Science Curriculum and Instruction	3	
Bio	599	Research Seminar	2	
Bio	600	Library Report or Essay	1	
Bio	610	Thesis	3	

** Recommended for graduate students in Health and Physical Education.

EDUCATION

The Department of Education offers professional courses for students of all curricula. In this capacity, it will offer the electives listed below.

For students majoring in elementary education, however, the Department of Education has constructed the specific curriculum which follows the general electives.

All students majoring in elementary education should consider the Department of Education as their major department. All elementary education majors will be assigned to an adviser in the Department of Education.

Electives			*Semester Credits*
Edu	502	Principles of Curriculum Development in the Secondary Schools	2
Edu	503	Sequential Development of Reading Skills	2
Edu	506	The Junior High School	2
Edu	508	The Core Curriculum	2
Edu	509	Contemporary Teaching Trends	2
Edu	520	Comparative Education	2
Edu	525	The Teacher and Administrative Leadership	2
Edu	526	Programmed Instruction	2
Edu	528	Production of Projected Still Materials	2
Edu	529	Production of Non-projected Materials	2
Edu	530	Selection and Effective Utilization of A-V Materials	2
Edu	531	Creative Teaching	2
Edu	532	Photography for Teachers	2
Edu	533	Television in Education	2
Edu	534	Seminar in Instructional Materials	2

Edu	535	Organization and Administration of the Audio-Visual Program	2
Edu	540	In-Service Education Seminar	2
Edu	550	Advanced Educational Psychology	2
Psy	552	Personality Development	2
Psy	554	Group Dynamics	2
Edu	555	Educational Statistics	2
*Gui	556	Occupational, Educational, and Social Information in Guidance	2
Psy	557	Advanced Mental Hygiene	2
*Gui	560	Techniques in Guidance and Counseling	2
*Gui	500	Principles and Techniques in Guidance	2
*Gui	562	Organization and Administration of the Secondary School Guidance Program	2
*Gui	564	Homeroom Guidance	2
*Gui	565	Supervising the Guidance Program	2
*Gui	567	Group Guidance	2
*Gui	572	Introduction to Rehabilitation Counseling	2
*Edu	566	The Activity Program in the Secondary School	2
Edu	580	History and Philosophy of Education	2
Edu	590	School Law	2

* Courses so marked will serve to meet requirements for Certification in Guidance.

ELEMENTARY EDUCATION

The candidate for the master's degree with a major in elementary education must meet the general course requirements stated on page 65. In addition, he must meet specific requirements established by the Department of Education. All course requirements for the elementary education curriculum have been arranged in the outline form below. By following this outline, therefore, the student can satisfy general course requirements and Department of Education requirements.

Semester Credits

I. Area of General Education: 6-12

A. *Required:* 4
- Hum 500 Seminar in the Humanities 2
- Edu 510 Educational Foundations 2

B. *Electives:* 2-8
(To be chosen under advisement)

Semester Credits

II. *Area of Specialization: 18-24

A. *Required Courses:*

Group 1 (Degree Candidates whose undergraduate major was elementary education.)

Psy	551	Seminar in Child Development and Behavior	2
Edu	550	Advanced Educational Psychology	2
Edu	501	Foundations of Reading Instruction	2
Edu	517	Curriculum Problems in Elementary Education	2

* Candidates for the master's degree with a major in Elementary Education must meet the requirements for a Provisional Certificate in Pennsylvania, or its equivalent, before being admitted to degree candidacy.

Group 2. (Degree Candidates whose undergraduate major was *not* elementary education)

Psy	551, 553	Seminar in Child Development and Behavior	2 to 4
Edu	550	Advanced Educational Psychology	2
Edu	501	Foundations of Reading Instruction	2
Edu	511	Unit Teaching in the Elementary School	2
Edu	513	Teaching the Communication Skills	2

Area II. Specialization

B. ELECTIVES

Group 1 All electives must be chosen under advisement. Degree candidates are advised to take a minimum of two courses from Group 1

			Semester Credits
Art	500	Art Activities at the Elementary School Level	2
Edu	509	Social Studies Curriculum and Instruction	2
Eng	544	Principles and Practices in Speech Improvement	2
Eng	550	Literature for the Elementary School	2
Geo	526	Advanced Conservation of Natural Resources	2
Geo	543	Geography of South America	2
Geo	544	Geography of Europe	2
HEd	502	Elementary Physical Education Workshop	2
HEd	540	School Health Problems	2
HEd	542	Health Instruction in the Elementary School	2
Mat	551	Curriculum and Research in Arithmetic	2
Mus	571	Keyboard Activities for the Classroom Teacher	2
Mus	572	Vitalizing Music in the Elementary Grades	2
Mus	574	Teaching of Music in the Elementary Grades	2
Sci	523	Resource Materials in Elementary Science	2
Sci	595	Elementary Science and Instruction	2

Group 2. All electives must be chosen under advisement. Degree candidates are advised to take a minimum of two courses from Group 2.

Edu	505	Curriculum and Research in Language Arts	2
Edu	515	Meeting Individual Needs of Elementary School Children	2
Edu	517	Curriculum Problems in Elementary Education	2
Edu	519	The Kindergarten-Primary School Program	2
Edu	521	Analysis, Diagnosis and Correction of Reading Difficulties	2
Edu	523	Elementary School Organization	2
Edu	527	Audio-Visual Materials in the Elementary School Curriculum	2
Edu	530	Selection and Effective Utilization of Audio-Visual Materials	2
Edu	536	Supervision in the Improvement of Instruction	2
Edu	537	Creative Expression in the Elementary School Curriculum	2
Edu	555	Educational Statistics	2
Edu	561	Guidance in the Elementary School	2
Edu	563	Measurement and Evaluation in the Elementary School	2
Edu	580	History and Philosophy of Education	2

C. Research: 8

Methods and Materials of Research (Edu 500) 2

Master's Thesis 3

Electives:

From three to five credits of supporting electives may be required.

ENGLISH

The candidate for the master's degree with a major in English must meet the general requirements as shown in the outline below, and he must meet the specific departmental course requirements as stated below the outline.

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum	500	Seminar in the Humanities	2 s. c.
B.	Res	500	Methods and Materials of Research (This course is Sec. Ed. 500)	2 s. c.
C.	Edu	510	Educational Foundations	2 s. c.

II. *Area of Specialization — 18 - 24 Semester Credits*

A. Required courses in major field
B. Electives chosen under advisement

III. *Research*

A. Thesis 3 s. c.
B. Supporting electives

Below are listed four groups of courses under the alphabetical headings A, B, C, D. Every major student must have a minimum of one course from each group, and he must have a minimum of eight-courses from these four groups. In addition, he must be prepared to take any course deemed necessary by his adviser.

Group A

Eng	502	History of the English Language
Eng	511	English Literary Criticism (1800-1960)
Eng	512	American Literary Criticism (1800-1960)
Eng	513	English Literary Movements
Eng	514	American Literary Movements

Group B

Eng	521	English Literature to Chaucer
Eng	522	Chaucer
Eng	523	Eighteenth Century Novel
Eng	524	British and Continental Short Story
Eng	525	Biography
Eng	526	Tudor Poetry and Prose
Eng	527	Stuart Literature
Eng	528	Milton
Eng	529	Victorian Prose
Eng	531	Shakespeare's Predecessors in Drama
Eng	532	Advanced Shakespeare

Group C

Eng	533	Nineteenth Century Drama
Eng	534	Nineteenth Century American Prose (Twain, James)
Eng	535	Twentieth Century American Writers
Eng	537	Emerson and Thoreau

Group D

Eng	541	Greek and Roman Literature in Translation
Eng	543	Advanced Problems in Public Speaking
Eng	544	Problems of Speech Correction
Eng	550	Literature for Elementary School

FOREIGN LANGUAGES

The candidate for the master's degree with a major in French, Spanish or German must meet the general requirements as shown in the outline below, and he must meet the specific departmental course requirements as stated below the outline.

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum	500	Seminar in the Humanities	2 s. c.
B.	Res	500	Methods and Materials of Research (This course is Sec. Ed. 500)	2 s. c.
C.	Edu	510	Educational Foundations	2 s. c.

II. *Area of Specialization — 18 - 24 Semester Credits*

A. Required courses in major field
B. Electives chosen under advisement

III. *Research*

A. Thesis 3 s. c.
B. Supporting electives

Below are listed four groups of courses. Group I includes courses common to all majors in French, Spanish, or German. Every major student must have a minimum of two courses from Group I, and he must have a minimum of six courses from those in Group II, III, or IV listed under his respective language. All foreign language courses are for three semester credits, except those listed under Group I,which are 2 credit courses.

Group I

Lan	501	Linguistics
Lan	502	FLES
Lan	503	Methods and Materials
Lan	504	Language Laboratory Techniques

Group II

FRENCH

Fre	511	Romance Philology (French)
Fre	512	Explication de Texte
Fre	513	Phonetics
Fre	514	Advanced Grammar and Composition
Fre	520	Rabelais and Montaigne
Fre	521	Moliere
Fre	522	Voltaire and Rousseau
Fre	523	Proust
Fre	524	Gide
Fre	530	French Classical Tragedy
Fre	531	The French Novel (to the end of the 19th Century)
Fre	532	The 20th Century French Novel
Fre	533	French Lyric Poetry
Fre	534	The Contemporary French Theater

Group III

GERMAN

Ger	511	German Philology
Ger	512	German Civilization
Ger	513	Phonetics
Ger	514	Advanced Grammar and Composition
Ger	520	The Age of Goethe
Ger	521	Goethe
Ger	522	Schiller

Ger	530	German Reformation, Baroque and Pseudo-Classicism
Ger	531	German Literature of the 19th Century
Ger	532	German Drama of the 19th and 20th Centuries
Ger	533	German Existentialism and Surrealism
Ger	540	The German Short Story
Ger	541	Modern German Poetry
Ger	542	Modern German Novel

Group IV

SPANISH

Spa	510	Advanced Spanish Phonetics
Spa	511	Advanced Spanish Grammar and Stylistics
Spa	520	Cervantes
Spa	530	Medieval Spanish Literature
Spa	531	Spanish Renaissance and Humanism
Spa	532	Nineteenth Century Spanish Literature
Spa	533	The Generation of 1898
Spa	540	The Picaresque Novel
Spa	541	The Modern Spanish Theatre

GEOGRAPHY

The candidate for the master's degree with a major in geography must meet the general requirements as shown in the outline below, and he must meet the specific departmental course requirements as stated below the outline.

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum	500	Seminar in the Humanities	2 s. c.
B.	Res	500	Methods and Materials of Research (This course is Sec. Ed. 500)	2 s. c.
C.	Edu	500	Educational Foundations	2 s. c.

II. *Area of Specialization — 18 - 24 Semester Credits*

A. Geo 582 Methods and Materials of Geographic Research
B. Electives chosen under advisement

III. *Research*

A. Thesis* 3 s. c.
B. Supporting electives

The candidate for the master's degree in geography must select a program of courses from the elective groups listed below. A minimum of two courses from groups I, II, III and the remaining courses necessary to fulfill the general requirements, must be chosen with the approval of the faculty adviser.

Group I. Earth Studies			*Semester Credits*
Geo	500	Biogeography	2
Geo	501	Geomorphology	2
Geo	502	Regional Climatology of the Continents	2
Geo	503	Advanced Cartography	2
Geo	504	Regional Physiography of North America	2

Group II. Economic and Political Studies

Geo	520	Problems of Economic Geography	2
Geo	521	Agricultural Geography	2
Geo	522	Ethnic and Demographic Problems of Geography	2
Geo	523	Political Geography	2

* See page 65 "Curriculum Requirements — Thirty-four Hour Option."

Geo	524	Modern Concepts in Global Geography	2
Geo	525	Geography in World History	2
Geo	526	Advanced Conservation of Natural Resources Workshop	2 or 3
Geo	527	The Geography of Regional and Urban Planning	2
Geo	528	World Economic Patterns	2

Group III. Regional Studies

Geo	540	The Geography of the United States and its World Relations	2
Geo	541	The Geography of Canada	2
Geo	542	The Geography of Mexico and Middle America	2
Geo	543	The Geography of South America	2
Geo	544	The Geography of Europe (Excluding U. S. S. R.)	2
Geo	545	The Geography of Africa	2
Geo	546	The Geography of Asia (Excluding U. S. S. R.)	2
Geo	547	The Geography of the U. S. S. R.	2
Geo	548	The Geography of the Pacific Lands	2

Group IV. Special Studies on Geography

Geo	580	Graduate Seminar in Geography in Education	2
Geo	581	Graduate Seminar in Modern Philosophy of Geography	2
Geo	582	Methods and Materials of Geographic Research	2
Geo	583	Geography Field Course	2
Geo	584	Workshop in Geography	2

HEALTH AND PHYSICAL EDUCATION

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum	500	Seminar in the Humanities	2 s. c.
B.	Res	500	Methods and Materials of Research	2 s. c.
C.	Edu	510	Educational Foundations	2 s. c.

II. Area of General Education — 6 - 12 Semester Credits

A.	Required			
	Hum	500	Seminar in the Humanities	2 s. c.
	Edu	500	Seminar in Educational Foundations	2 s. c.
B.	Electives chosen under Advisement			2-8 s. c.

III. *Research*

A.	Thesis and supporting electives	3-5 s. c.
*B.	Research Report	2 s. c.

IV. Area of Specialization — 18 - 24 Semester Credits

A. Required Courses

HEd	550	Foundations and Principles of Health, Physical Education and Recreation	2 s. c.
HEd	590	Seminar in Health, Physical Education and Recreation	2 s. c.

*B. Electives chosen under advisement

1. Required Electives — 6 semester credits must be selected from the Required Elective List.

			Semester Credits
HEd	521	Administration and Supervision of Inter-school and Intramural Athletics	2
HEd	530	Physiological and Psychological Bases of Motor Activity	2

* The requirements vary between the 34 and 30 hour degree program. A thesis is required of students pursuing the 30 hour degree, while a research report is required of those under the 34 hour plan.

HEd	561	Measurement and Evaluation in Health, Physical Education and Recreation	2
HEd	562	Administrative and Supervisory Practices in Health, Physical Education and Rec.	2
HEd	570	Curriculum Development in Health and Physical Education	2

2. Electives —

HEd	501	Advanced Rhythmical Foreign Gymnastics	2
HEd	502	Elementary Physical Education Workshop	2
HEd	503	Advanced Aquatics	2
HEd	504	Dance in Education	2
HEd	510	School and Community Recreation	2
HEd	511	Field Problems in Recreation	2
HEd	512	Outdoor Education Workshop	2
HEd	520	Advanced Coaching	2
HEd	531	Adaptive Physical Education Workshop	2
HEd	540	School Health Problems	2
HEd	541	School-Community Health Education Workshop	3
HEd	560	Contemporary Problems in Health, Physical Education and Recreation	2
HEd	580	Contemporary Practices in Safety Education	2

MATHEMATICS

The candidate for the master's degree with a major in mathematics must meet the general requirements as shown in the outline below, and he must meet the specific departmental course requirements as stated below the outline.

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum	500	Seminar in the Humanities	2 s. c.
B.	Res	500	Methods and Materials of Research (This course is Sec. Ed. 500)	2 s. c.
C.	Edu	510	Educational Foundations	2 s. c.

II. *Area of Specialization — 18 - 24 Semester Credits*

A. Required courses in major field
B. Electives chosen under advisement

III. *Research*

*A. Thesis 3 s. c.
B. Supporting electives

The candidate must select a program in consultation with his adviser. This program must include courses in each of the major areas of Algebra, Geometry, Analysis, and Statistics.

			Semester Credits
Mat	502	A Survey of Modern Mathematics	3
Mat	503	History of Mathematics	3
Mat	511	Higher Algebra	3
Mat	512	Theory of Numbers	3
Mat	513	Foundations of Algebra	3
Mat	523	Probability and Mathematical Statistics I	3
Mat	524	Probability and Mathematical Statistics II	3
Mat	531	Foundations of Geometry	3
Mat	532	Projective Geometry	3
Mat	535	Topology	3

* See page 65 "Curriculum Requirements — Thirty-four Hour Option."

Mat	541	Advanced Calculus I	3
Mat	542	Advanced Calculus II	3
Mat	543	Differential Equations	3
Mat	547	Introduction to the Theory of Functions of a Complex Variable	3
Mat	550	Methods and Materials of Research in Mathematics Education	3
Mat	552	Seminar in Mathematics Education	3

MUSIC EDUCATION

The candidate for the master's degree with a major in music education must meet the general course requirements as stated below. In addition, he must meet whatever requirements the Department of Music may feel necessary in his particular situation.

I. Required Courses — All Curricula — 6 - 12 Semester Credits

A. Required — 4 s. c.

Hum	500	Seminar in the Humanities	2 s. c.
Edu	500	Seminar in Educational Foundations	2 s. c.
Res	500	Methods and Materials of Research (This course is Mus. 500 for music curriculum)	2 s. c.

B. Electives — 2-8 s. c.
(To be chosen under advisement)

*Semester Credits**

II. Area of Specialization — 18-28

A. Required Courses:

Section I — Music Education — Required — 4

a. Required Course:

Mus	510	Current Trends in Music Education	2

b. Required Elective Course (Select One)

Mus	511	Administration of Public School Music	2
Mus	512	Music Education in the Secondary School	2
Mus	513	Music Education in Elementary School	2
Mus	514	Pedagogy of Music Theory	2
Mus	515	Marching Band Techniques and Materials	2
Mus	516	Piano Pedagogy	2
Mus	517	String Pedagogy	2
Mus	518	Vocal Pedagogy	2
Mus	519	Music Appreciation in the General Music Program	2

Section II — Applied Music — Required — 4

a. Keyboard:

Mus	541-551	Advanced Piano or Organ	1 or 2
Mus	546-549	Piano Ensemble and Master Class	1 or 2

b. Vocal:

Mus	503	Advanced Choral Conducting	2
Mus	531-535	Advanced Voice	1 or 2
Mus	536-537	Vocal Ensemble and/or Chorus	1
Mus	538-539	Opera Workshop	2

c. Instrumental:

Mus	501-502	Advanced Class Instruction in Instruments	1
Mus	504	Advanced Instrumental Conducting	2
Mus	561-565	Advanced Instruments	1 or 2
Mus	566-569	Ensemble and/or Orchestra Band	1

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* See page 65 "Curriculum Requirements — Thirty-four Hour Option."

Section III — Structure and Organization of Music — Required 4

and/or

Section IV — Literature and History of Music 4

Courses for Section III:

Mus	521	Advanced Counterpoint	2
Mus	522	Advanced Composition and/or Orchestration	2
Mus	523	Advanced Band Arranging	2

Courses for Section IV:

Mus	505	Contemporary Music	2
Mus	506	Instrumental Literature	2
Mus	507	Vocal Literature	2
Mus	508	Choral Literature	2
Mus	509	Piano Literature	2
Mus	524	String Literature	2
Mus	525	Woodwind Literature	2
Mus	526	Brass Literature	2
Mus	527	History of the Opera	2
Mus	528	Twentieth Century Musical Styles	2
Mus	591	Music in the Romantic Era	2

Section V — Required Elective from Section II or III or IV ..... 2 or 3

B. Electives (offered as needed)

Music Education Students:

Mus	581	Accompanying	2
Mus	582	Form in Music	2
Mus	583	Music in the Baroque Period	2
Mus	584	Seminar in Piano Teaching and Teaching Materials	2
Mus	585	String Literature and Pedagogy	2
Mus	586-587	Vocal Diction	2 or 4
Mus	588-589	Research Seminar (each semester)	1 or 2

Elementary Education Students:

Mus	572	Vitalizing Music in the Elementary Grades	2
Mus	573	Keyboard Activities for the Classroom Teacher	2
Mus	574	Teaching of Music Appreciation in the Elementary Grades	2

All Students:

Mus	560	Study and Appreciation of the Opera	2
Mus	571	Music Criticism and Aesthetics	2
Mus	580	Music in National and International Affairs	2
Mus	590	Study and Appreciation of the Symphony	2

Applied Music — Individual Lessons:

Mus	520	Instrument	1
Mus	530	Voice	1
Mus	540	Piano	1
Mus	550	Organ	1

C. Research 8*

Mus	500	Methods and Materials of Research	2
Master's Thesis*			3

Electives:

From three to five credits of supporting electives may be required ..... 3 to 5

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* See page 65 "Curriculum Requirements — Thirty-four Hour Option."

PHYSICAL SCIENCE

The candidate for the master's degree with a major in physical science must meet the general requirements as shown in outline below and the specific departmental requirements as stated below the outline.

I.	*Area of General Education*		*Semester Credits*
A.	Required		
	Hum 500	Seminar in the Humanities	2 s. c.
	Edu 510	Educational Foundations	2 s. c.
B.	Electives		2-8 s. c.
	To be chosen in areas other than Physical Science under advisement		
II.	*Area of Specialization*		18-24 s. c.
	Electives: To be chosen under advisement		
III.	*Research*		5 s. c.
A.	Sec. Ed. 500 Methods and Materials in Research		2 s. c.
B.	Thesis*		3 s. c.

Two semesters of general chemistry and two semesters of general physics are pre-requisites to all courses in the area of specialization. Ability to use differential and integral calculus will be a requirement for the degree.

Electives			*Semester Credits*
Sci	500	Philosophy of Science	3
Sci	501	Historical Geology	3
Sci	533	Physics Demonstrations	3
Phy	524	Experimental Physics	3
PSc	502	Teaching of Physics in the Secondary School	3
PSc	503	Teaching of Chemistry in the Secondary School	3
PSc	506	Seminar in Physical Science	3
PSc	507	Recent Advances in Physical Science	3
PSc	508	Nuclear Physics	3
PSc	510	Electronics for Teachers (2 lecture, 2 lab hours)	3
PSc	511	Electricity for Teachers	3
PSc	512	Mechanics for Teachers	3
PSc	513	Modern Physics for Teachers	3
PSc	521	Mineralogy for the Science Teacher	3
PSc	531	Acoustics for the Science Teacher	3
PSc	532	Space Science	3
PSc	535	Advanced Analytical Chemistry	3
PSc	590	History of the Physical Sciences	3

(Any graduate course in physics or chemistry may be elected and applied to this degree.)

SOCIAL SCIENCE

The candidate for the master's degree with a major in social science must meet the requirements stated below.

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum 500	Seminar in the Humanities	2 s. c.
B.	Res 500	Methods and Materials of Research (This course is Sec. Ed. 500)	2 s. c.
C.	Edu 510	Educational Foundations	2 s. c.

* See page 65 "Curriculum Requirements — Thirty-four Hour Option."

II. *Area of Specialization — 18 - 24 Semester Credits**

A. Required courses in major field
B. Electives chosen under advisement

III. *Research*

A. Thesis 3 s. c.
B. Supporting electives 2 s. c.

The candidate must complete a minimum of three courses from each of the three groups listed below. The remaining credits may then be chosen subject to the approval of the faculty adviser.

Group A

His	510	Early American History	2
His	511	Growth of the American Nation	2
His	512	The United States as a World Power	2
His	513	Seminar in American Constitutional History	2
His	514	Seminar in Recent Diplomatic History	2

Group B

His	500	Seminar in Contemporary European Culture	4
His	520	Early European History	2
His	521	Seventeenth, Eighteenth and Nineteenth Century Europe	2
His	522	Twentieth Century Europe	2
His	523	Contemporary World Affairs	2
His	524	Cultures of the Non-Western World	2
His	525	The Evolution of Modern Russia	2
His	526	Workshop in World Cultures	2

Group C

His	502	Methods and Materials for Teaching Social Studies	2
PSc	531	Modern Political Thought	2
PSc	532	Seminar in International Relations	2
Eco	531	Comparative Economic Systems	2
Eco	532	History of Economic Thought	2
Eco	533	Teaching Economics in Secondary Schools	2
Soc	531	Social Pathology	2
Soc	532	Historical Sociology	2

COURSE DESCRIPTIONS

BIOLOGY

Bio 501 *Introduction to the Study of Fossils* 3 s. c.
The history of plant life and animal life on our planet, as shown in the record of the rock formations. Field trips to visit museums as well as laboratory experiences in the study of living forms and fossils will aid graduate students in the comprehension of the great literature of paleontology.
Prerequisite: Completion of a field in biological science or general science.

* See page 65 "Curriculum Requirements — Thirty-four Hour Option."

Bio 502 *Applications of Biological Techniques* 3 s. c.

Consideration is given to present-day applications of biological laws governing plant and animal life with special attention devoted to the influence of drugs, hormones, and radiation on living organisms. A study is made of techniques used by today's biologists in research to determine the effects of "outer space" on plant and animal life.

Bio 503 *Biological Literature* 3 s. c.

The purpose of this course is to give the graduate student an opportunity to become more familiar with biological literature and to develop skill in the use of the literature. Periodicals, encyclopedias, handbooks, abstracting journals and other books dealing with the various divisions of biology will be studied. Students are required to conduct a literature search on a selected topic.

Bio 511 *Systematic Botany* 3 s. c.

Scientific methods applied to the classification of leafy and flowering plants. Observation of living specimens in the field, woods and gardens will be supplemented by lectures and herbarium work. Various systems of historical importance will be reviewed. The modern approach to experimental taxonomy will be emphasized.
Prerequisite: General college botany or basic biology and field botany.

Bio 512 *Plant Growth* 2 s. c.

A comprehensive review of various theories of growth and consideration of the evidence. A study of apical meristems, secondary growth and development of reproductive parts is projected against a background of plant physiology. Experiments with plant materials will involve use of phyto-hormones and various synthetic substances known to affect growth of vascular plants.
Prerequisite: Two semesters of general college botany and a course in plant physiology or permission of the professor in charge.

Bio 514 *Plant Pests and Diseases* 3 s. c.

The nature of infectious plant parasites, insects and nematodes which cause considerable damage to turf, farm crops, forest trees, ornamentals and stored grains. Several specific organisms are studied in some detail. Modern control measures are noted.
Prerequisite: Two semesters of college botany and one semester of invertebrate zoology, with laboratory experiences.

Bio 516 *Physiology of Plants* 3 s. c.

Cell physiology including respiration, photosynthesis, fermentation, enzyme catalysis, auxins, and membrane phenomena will be stressed. Tropisms, mineral nutrition, water metabolism, and the translocation of solutes are additional areas of discussion and experimentation.

Bio 522 *Man and Wildlife — Ecology and Conservation* 3 s. c.

Impact of man on wildlife stressing relationships and attempts at management. Field study and measurement of living systems. Biogeography. Examination of policies of private, local, county, state, and federally owned public lands. Visits to state hatcheries and propagation areas. Investigations of hunting and fishing regulations and bounty systems past and present. Preservation of our biological heritage.

Bio 523 *Resource Material in Elementary Science* 3 s. c.
A course designed to acquaint the elementary school teacher with the resource material in his community and elsewhere that is essential to the curriculum of the modern elementary school. Although this course is designed primarily for elementary school teachers, it should prove profitable to administrators also.

Bio 524 *Experimental Biology* 3 s. c.
Techniques in demonstrating body functions and animal behavior. Humanely conducted operations will utilize several types of invertebrates as well as fish, frogs and rodents. These are designed to demonstrate reflexes, tropistic responses, enzymatic digestion, peristaltic movements, circulation of the blood, metabolism, normal and anomalous growth.
Prerequisite: Completion of a major field in biological science.

Bio 525 *Biochemistry I and II* 3 or 6 s. c.
A presentation of the biochemical changes in the organism. The use of modern techniques to determine the properties of protoplasm. A consideration of acid-base balance, Donnan equilibrium, Homeostasis, the function of carbohydrates, proteins, fats in tissues and intermediary metabolism, and the nature of enzymes. A study of digestion, the role of vitamins, nutrition, energy metabolism, the chemical composition of blood, hormones, chemical structure in relation to biological phenomenon and the problem of biochemical antagonism and detoxication mechanisms.
Prerequisites: Two semesters of college chemistry, two semesters of organic chemistry and undergraduate specialization in Biology.

Bio 530 *Genetic Theory*
Studies in the theory of mutation of genes, chromosomal mappings, chromosomal abnormalities, the principles of dominance and recessiveness multiple factors, lethal factors and their association with visibles. The nature of D.N.A. explored.
Prerequisite: Basic Biology or Zoology I and II or Botany I and II.

Bio 532 *Experimental Genetics* 3 s. c.
Consideration of inheritance from the point of view of cellular biology with modern concepts of the structure and chemistry of chromosomes and the nature of the genes. Experimental work in the production of mutations in germ cells and in somatic and the effects of radiations upon tissues.
Prerequisite: Bio 530, Genetic Theory.

Bio 533 *Experimental Embryology I and II* 3-6 s. c.
A comprehensive course tracing the maturation of gametes, fertilization, cleavage, differentiation, organogenesis, and development in the vertebrates. Major emphasis will be placed on such phenomena in the chick, with correlative work on the frog and pig.
Prerequisites: Zoology I, II, Comparative Anatomy is desirable.

Bio 539 *Insect Morphology* 3 s. c.
A study of the internal and external structures of typical insects from laboratory dissections of specimens, and the relationship of the functions of these structures to the life history of the insect.
Prerequisite: General Entomology.

Bio 540 *Medical Entomology* 3 s. c.
A study of the arthropods affecting the health of man and animals. The study includes the morphology and bionomics of insects, ticks, and mites of medical importance. Local, domestic, and foreign arthropods are considered. Local types collected.
Prerequisite: General Entomology.

Bio 541 *Economic Entomology* 3 s. c.
Beneficial and deleterious influences exerted by insects upon man's welfare; their identification, distribution, life histories and control. Special attention will be devoted to insects attacking crop plants, stored products, and livestock. Further study will be devoted to pollinating insects as well as the predaceous and parasitic forms utilized in biological control of organisms.
Prerequisite: Completion of a field in biological science including general entomology or invertebrate zoology and college botany courses.

Bio 542 *Animal Ecology* 3 s. c.
Interrelationships of organisms and the environment including physical and biological factors. Topics for discussion and investigation will include animal distribution, procuring food, escape from enemies, surviving climatic extremes, reproductions and community organizations. Field trips to study a variety of terrestrial and freshwater habitats will be required.
Prerequisite: Two semesters of college zoology or general biology.

Bio 543 *Freshwater Biology* 3 s. c.
Habitats, morphology and taxonomy of our local freshwater plants and animals. Work in the course will include classroom lectures and dissection, field trips and a minor problem. Each student must present at a seminar meeting a complete report of some individual research project.
Prerequisite: College zoology, college botany, and at least one field course in biology.

Bio 544 *Vertebrate Dissection* 3 s. c.
Practical methods of examining bodies of vertebrate animals to observe differences in the structure of organs and organ systems. Functions of each will be discussed. An effective lecture-demonstration at a final seminar is a required outcome.
Prerequisite: College zoology and vertebrate anatomy.

Bio 545 *Developmental Anatomy* 3 s. c.
A review of the anatomy of the human reproductive systems and the fundamentals of human development. Students make a survey of current literature dealing with the origin of sperms and ova and the sexual cycles. The establishment of several functional systems of the human body is studied, with constant reference to those in chicks and monkeys. A term paper is required which shall be presented to the class group.
Prerequisite: Anatomy, physiology and embryology courses.

Bio 546 *Microtechnique* 3 s. c.
A course designed to acquaint the student with the procedures involved in the production of microscope slides. Techniques of preparing whole mounts, microtome sections and serial sections will be covered. Both plant and animal materials will be used.
Prerequisites: Botany I, II, Zoology I, II.

Bio 561 *Human Heredity* 3 s. c.
The in-born qualities of human beings and their genetic basis. This subject deals with both physical and mental aspects, normal and sub-normal, including such topics as linkage, crossing-over, mutations, nature of the genes, multiple alleles, multiple genes, incomplete dominance, lethal genes, relationship to heredity and environment, and effects of radio-active substances.
Prerequisite: A course in general genetics or two semesters of a biological science.

Bio 562 *Physical Anthropology* 3 s. c.

A study of mankind, dealing with physical differences among various cultural groups. Variations in stature, skin color, blood groups, and other so-called racial differences will be studied in the light of evolution and modern science of genetics. The purpose of this course is to disclose such differences and to account for them, using scientific literature and methods.
Prerequisite: Completion of a field in biological science or health and physical education.

Bio 571 *Advanced Bacteriology* 3 s. c.

Diagnostic procedures and minor problems in microbiology, immunology and immunochemistry. The fields of medical mycology, virology and use of antibiotics will be examined.
Prerequisite: Completion of a field in science, including two semesters of chemistry and an undergraduate course in bacteriology or microbiology.

Bio 572 *General Cytology* 3 s. c.

Techniques of preparing cells and tissues for microscopic examination. The physical properties, chemical structure and metabolism of cells will be studied, using both plant and animal tissues.
Prerequisite: Completion of a field in biological science.

Bio 573 *Experimental Cellular Physiology I and II* 3 or 6 s. c.

A study of the vital processes of cellular metabolism, including the use of modern techniques such as micro-manometric methods, factors inducing cellular changes to stimuli, the chemical nature of the cell membrane, action potentials of cells and both anaerobic as well as aerobic cellular metabolism. The use of pure cultures and tissue cultures to demonstrate the above molecular changes to environmental conditions.
Prerequisite: Zoology I and Botany II, or a general course in Biology.

Bio 574 *Advanced Human Physiology I and II* 3 or 6 s. c.

Tissue physiology, electrophysiology and the functional activities of the organ systems including the circulatory, respiratory and digestive. The dynamics of muscle action, and the activities of the nervous system and the endocrines. A consideration of the renal mechanism, and the physiology of sensation, activities of the neuromuscular junction, together with the process of reproduction and hypersensitivity.
Prerequisites: Two semesters of college chemistry and Biology.

Bio 575 *Mycology: Morphology of Fungi* 3 s. c.

Various classifications of fungi, the keys used to identify, the structures and shapes of the classical examples, their taxonomy and their reproductive modifications will be studied along with the generic and specific names in the botanical rules of nomenclature. A general study of all the groups will be as a brief survey of the entire Subdivision of the Thallophytes — the Fungi. A detailed study of representatives of the various classes will constitute a major part of the first semester's work of perhaps 3 or 4 lecture classes and then one laboratory period, devoting the entire 3 hours to laboratory study of actual living materials or dried exsiccati of herbarium specimens.
Prerequisite: General college botany, two semesters of college chemistry, and a course in bacteriology or microbiology.

Bio 576 *Physiology of Fungi* 3 s. c.
This portion would enlarge on the first semester by going into the metabolic activities of the fungi, some of the products produced industrially, the medical slant of common pathogenic molds, the plant disease field touched in relation to phytopathological fungi and other practical applications as logical or typical types to use as examples in teaching fields. This would encompass the physiology of growth, cell enlargement, cell multiplication, reproduction from the sexual perfect stages as well as asexual (imperfect) stages. From the agricultural pest point of view, an effort would be made not to overlap with or encroach into the course on Plant Pests and Diseases (Sci 512) or on Economic Entomology (Sci 541), although some of the disciplines could and would be common ground. Spore production, dissemination, germination, au naturel as well as in vitro would be discussed along with a mention of fossil fungi and relationships of families from a genetic and historical point of view.
Prerequsite: General college botany, two semesters of college chemistry, and a course in bacteriology or microbiology.

Bio 577 *Experimental Physiology I and II* 3 or 6 s. c.
An investigation of the properties of skeletal muscle, the electrical properties of nerve and muscle, neuro-humoral transmission and a study of spinal reflexes. Study of the properties of cardiac muscle, effect of antagonistic ions, factors controlling blood pressure (arterial), the nervous control of respiration as well as the analysis of respiratory gases. Blood gas analysis, factors affecting urine formation in man and the effect of intravenous hypertonic solutions on fluid balance and kidney function. Analyses of the hormonal influence on smooth muscle motility and the effect of hormones on secretion. The measurement of vision and hearing, the carbon dioxide curve in vivo and decerebrate rigidity.
Prerequisites: Two semesters of College Chemistry and a specialization in Biology.

Bio 591 *History of Biology* 3 s. c.
Great discoveries in the field of biology and related literature from that of Theophrastus to the present should be evaluated. Emphasis will be placed on the philosophical implications of these discoveries and the economic changes which have resulted from the major discoveries.
Prerequisites: College zoology, college botany and a field of at least 24 semester hours in science.

Bio 595 *Elementary Science Curriculum and Instruction* 3 s. c.
Methods and materials used in teaching science in elementary grades; demonstration experiments adapted to elementary classroom work; curriculum planning; recent research and its application; field trips.

Bio 599 *Research Seminar* 2 s. c.
The analysis and writing of the research report. This seminar is required of all students who elect to write a thesis.

EDUCATION

Edu 502 *Secondary School Curriculum* 2 s. c.
A survey of current practices and trends in reorganizing and reorienting the secondary school curriculum, with emphasis on the various integrating techniques. Particular attention will be given to the critical analysis and evaluation of the experimental results of such practices. Specific application will be made to each of the major subject matter areas.

Edu 503 *Sequential Development of Reading Skills* 2 s. c.
This course emphasizes the continuity in the teaching of reading skills. Consideration is given to: Reading and language development, reading and communication, factors in word perception, the reading program in all grades, grouping in the reading program, appraisal of readiness, word attack skills, comprehension and interpretation as well as materials in the reading program. Prerequisite: A basic course in Reading.

Edu 506 *The Junior High School* 2 s. c.
The development, function, and philosophy of the early years of secondary school. A study of the curriculum, teaching assignments, characteristics of pupils, and special problems of the junior high school.

Edu 508 *The Core Curriculum* 2 s. c.
The theory and philosophy underlying the core curriculum. A study of specific school core programs in secondary schools will be studied and evaluated.

Edu 509 *Contemporary Teaching Trends* 2 s. c.
A study of the newer trends of teaching in the elementary and secondary school with respect to effective adaptation of these newer practices to the curriculum. Such areas as team-teaching, programmed instruction, and various media of communication will be evaluated.

Edu 510 *Educational Foundations* 2 s. c.
The history of education; factual history integrated with educational philosophy and thought; the evolution of present day educational theories and issues from early times.
This is a required course for all curricula.

Edu 520 *Comparative Education* 2 s. c.
Major problems of education in a number of foreign countries in relation to similar problems in the United States. Attention is given to the reasons for the various patterns of education in terms of purposes and philosophies as they pertain to differences in organization and administration.

Edu 525 *The Teacher and Administrative Leadership* 2 s. c.
A study of processes and methods of local leadership and participation by the classroom teacher, including an understanding of human relations. The relationship between the classroom teacher and other school personnel.

Edu 526 *Programmed Instruction* 2 s. c.
A workshop type course designed to give the student experience in program writing. The course will include instruction in learning theory, programming techniques, program writing, and will also include the analysis and evaluation of existing programs. Prerequisite: A course in Educational Psychology.

Edu 528 *Production of Projected Still Materials* 2 s. c.
This course deals with the various techniques for producing materials for use on the overhead and opaque projectors. Laboratory fee.

Edu 529 *Production of Non-Projected Materials* 2 s. c.
Techniques in the production and use of such teacher-prepared devices as bulletin boards, felt boards, magnetic boards, flip charts, etc.

Edu 530 *Selection and Effective Utilization of Audio-Visual Materials* 2 s. c.
Concerns the approved methods of selecting audio-visual materials for maximum values to the curriculum, as well as principles applied to efficient use of each of the major types of materials. (Pre-Basic A-V course).

Edu 531 *Creative Teaching* 2 s. c.
Study of the nature and conditions associated with creativity along with skills and techniques most likely to result in the full development of the creative potential of the learner.

Edu 532 *Photography for Teachers* 2 s. c.
Theories and practice in the field of still photography with particular emphasis on the production of photographic transparencies, including Polaroid photography. One unit of study deals with the production of motion pictures. Laboratory fee.

Edu 533 *Television in Education* 2 s. c.
For teachers, school administrators and nonschool persons that are interested in the educational value of commercial, educational and closed-circuit television. Emphasizes the principles and practices of educational television systems. Presents the theory and limited practice in planning and producing educational televised lessons.

Edu 534 *Seminar in Instruction Materials* 2 s. c.
A workshop type course probing the problems in the use of the various instructional media and providing opportunity for investigating the values of community resources, teaching machines, etc. (Pre-Basic A-V course).

Edu 535 *Organization and Administration of the Audio-Visual Program* 2 s. c.
Includes a study and analysis of the function of the school's audio-visual education program. The selection and evaluation of materials and equipment, unit costs, problems of developing and maintaining an efficient operation. (Pre-Basic A-V course).

Edu 540 *In-Service Education Seminar* 2 s. c.
For teachers and supervisors who are interested in the many techniques, media and resources which can be utilized for in-service education programs. Study concerns the staff working together; preparation of curriculum materials; use of consultants; and community resources for organizing a school improvement program.

Edu 550 *Advanced Educational Psychology* 2 s. c.
Intensive study of the processes by which skills, understandings, concepts and ideals are acquired; examination of teaching practices in relation to basic research on learning. A study of similarities and differences in learning theories.
Prerequisite: Educational Psychology.

Psy 552 *Personality Development* 2 s. c.
This course deals with the interaction and effects of the forces that affect personality development. Normal and neurotic development are contrasted, and the principles of personality measurement are explored.
Prerequisite: General Psychology and Human Development.

Psy 554 *Group Dynamics* 2 s. c.
This course deals with group structure and the interaction of persons within the group. Group cohesiveness, formation of group norms, and the relation of the individual to the group are all explored with a view to more effective group participation.
Prerequisite: General Psychology.

Edu 555 *Educational Statistics* 2 s. c.
A course dealing with sampling and reliability measures including methods of correlation. Applications stressed in design, execution and interpretation of the experimental studies in education. Orientation to statistical procedures in practical solution of educational problems.
Prerequisite: Tests and Measurements in Guidance or its equivalent.

Gui 556 *Occupational, Educational and Social Information in Guidance* 2 s. c.
A course concerned with the numerous factors involved in occupational, educational, and social adjustments and how to secure, classify, analyze, interpret, evaluate these factors for intelligent use by teachers and guidance workers.
Prerequisite: One course in psychology or guidance.

Psy 557 *Advanced Mental Hygiene* 2 s. c.
The principles of mental hygiene are studied in depth and in relation to emotional and social adjustment.
Prerequisite: General Psychology.

Gui 560 *Techniques in Guidance and Counseling* 2 s. c.
Tools and techniques commonly used in diagnosis of data secured through observation, personal documents, rating devices and testing will be studied. The interview and theories of counseling and applications of techniques to solution of pupils' problems. The importance of case studies will be stressed.

Gui 500 *Principles and Techniques in Guidance* 2 s. c.
A course concerned with the factors involved in educational, occupational and social adjustments and how to secure, classify, analyze, interpret, evaluate these factors for intelligent use by teachers and guidance workers.
Prerequisite: One course in psychology or guidance.

Gui 562 *Organization and Administration of the Secondary School Guidance Program* 2 s. c.
A survey of the current literature in counseling and guidance. Problems involved in initiating organization and developing guidance services. Types of organizations, staff, physical facilities, and administrative and faculty relationships will be considered.

Gui 564 *Homeroom Guidance* 2 s. c.
A thorough study of the guidance function as it pertains to the homeroom teacher. Special emphasis is given to this form of guidance in the junior high school.
Prerequisite: Introduction to Guidance and Educational Psychology.

Gui 565 *Supervising the Guidance Program* 2 s. c.
The function of the individual charged with the responsibility of supervising the guidance program in a particular school system. A survey of the modern practices and principles for coordinating the guidance and counseling duties assigned to teachers. Individual and committee responsibilities in collecting and disseminating information.

Gui 567 *Group Guidance* 2 s. c.
A study of the interactional processes involved in inter-group and intra-group situations with reference to the school program. Special attention is given to the role of the group leader. Opportunities are afforded students to participate in group thinking and behavior and to evaluate the performance of groups.

Gui 572 *Introduction to Rehabilitation Counseling* 2 s. c.
This course covers the history, nature, needs and research basis of rehabilitation. The counselor's role in the rehabilitation process is emphasized along with the contribution of other professionals in the team approach. Selected rehabilitation problems are presented to show the parts played by such factors as medical information, social service, specialized environments, client training, job placement and employment.

Edu 566 *The Activity Program in the Secondary School* 2 s. c.
A course dealing with the organization and development of an educationally sound activity program. A survey of the various types of activities and their function in the over-all school program. Emphasis is upon character building and leadership opportunities for students as well as the role the teacher plays in such a program.

Edu 580 *History and Philosophy of Education* 2 s. c.
A study of the historic background and development of education and influences which important philosophies have had on educational problems in a democratic social order.

Edu 590 *School Law* 2 s. c.
A course dealing with the legal background of educational organization in various states as it pertains to the role of the state itself, the intermediate and the local units. Particular attention will be paid to the legal status of the school board, the rights and privileges of the teacher, the board and the child. Much will be made of the case study technique.

ELEMENTARY EDUCATION

Art 500 *Art Activities in the Elementary School* 2 s. c.
Formulating the art curriculum in the elementary school; organizing materials and procedures in keeping with contemporary trends in educational philosophy.

Edu 500 *Methods and Materials of Research* 2 s. c.
An introduction to the basic principles of research in education with attention to types of research, techniques of gathering data, and the application of methods to specific types of research problems. The student will be introduced to research literature and typical research reports.

Edu 501 *Foundations of Reading Instruction* 2 s. c.
An analysis of the modern methods of teaching children to read. Recent psychological findings in reading readiness, eye movements, and word perception phonics will be studied.

Edu 505 *Curriculum and Research in Language Arts* 2 s. c.
Curriculum planning; modern teaching methods; instructional materials; recent research and its application in the classroom; English written and oral; spelling and handwriting.

Edu 509 *Social Studies Curriculum and Instruction* 2 s. c.
Curriculum planning; modern teaching methods; instructional materials; recent research and its application in the classroom; use of maps and globes.

Edu 511 *Unit Teaching in the Elementary School* 2 s. c.
An introduction to the unit method of teaching and the integrated curriculum, with special emphasis on social studies, science, and health. Intended for those whose undergraduate work was *not* in elementary education; open to others by permission of the instructor.
Prerequisites: Child Development and Educational Psychology, or their equivalents.

Edu 513 *Teaching the Communication Skills* 2 s. c.
An introduction to the teaching of language (oral and written) and arithmetic — content, methods, materials, and organization. Intended for those whose undergraduate work was *not* in elementary education; open to others by permission of the instructor.
Prerequisites: Child Development and Educational Psychology, or their equivalents.

Edu 515 *Meeting Individual Needs of Elementary School Children* 2 s. c.
An advanced course concerned with methods and materials for individualizing instruction in the subject and skill areas, and with meeting individual needs in personal adjustment.
Prerequisite: Undergraduate degree in elementary education, or all required courses in Group 2 under A, Area of Specialization.

Edu 517 *Curriculum Problems in Elementary Education* 2 s. c.
Examination of basic problems and current trends in elementary education; practical, creative projects and investigations dealing with actual teaching situations.

Edu 519 *The Kindergarten-Primary School Program* 2 s. c.
A survey of kindergarten-primary principles, procedures, and materials appropriate to the school level indicated.

Edu 521 *Analysis, Diagnosis, Correction of Reading Difficulties* 2 s. c.
Treating remediate reading cases: individual and small group instruction; classification of types of problems; corrective and remedial procedures.
Prerequisite: Foundations of Reading.

Edu 523 *Elementary School Organization and Supervision* 2 s. c.
A study of major over-all organization and supervisory programs in the modern elementary school. Professional relationships, community needs, and articulation of the entire educational program as they apply to the teacher in the school. (Open only to those with teaching experience.)

Edu 527 *Audio-Visual Materials in the Elementary School Curriculum* 2 s. c.
Practice in techniques of using and evaluating the modern communications media in the classroom; correlation of audio-visual materials and techniques with the modern elementary school program.
Prerequisite: Basic A-V course.

Edu 536 *Supervision in the Improvement of Instruction* 2 s. c.
A study of the best practices used in elementary school teaching. Emphasis is given to developing meaningful assignments, daily lessons, activities, pupil participation, and group and individual projects. The teacher's role in supervision of learning experiences.

Edu 537 *Creative Expression in the Elementary Curriculum* 2 s. c.
A laboratory course designed to help teachers work with children in the creative arts. Emphasis is placed upon the child's needs to discover creative interests and upon the development of skills and refinements of taste needed for rich experience in art, music, and literature.

Eng 544 *Principle and Practice in Speech Improvement* 2 s. c.
A course designed to acquaint teachers with the speech problems common to children in the elementary school. Emphasis is placed upon speech rehabilitation; methods of examination, diagnosis and treatment; therapy practice in clinic under supervision.

Edu 550 *Advanced Educational Psychology* 2 s. c.
Intensive study of the processes by which skills, understandings, concepts and ideals are acquired; examination of teaching practices in relation to basic research on learning. A study of similarities and differences in learning theories.
Prerequisite: Educational Psychology.

Psy 551, 553 *Seminar in Child Development and Behavior* 2 or 4 s. c.
An intensive study of elementary school children — their development, needs and behavior. Course content and organization will depend on the interests and needs of class members; readings, assignments, and projects will be individualized. Open to all students. (Students with no undergraduate course in Child Development may be required to take both semesters of this course.)

Edu 561 *Guidance in the Elementary School* 2 s. c.
The function of guidance in relation to children's needs; emphasizes principles and techniques which are most applicable in the elementary school guidance program. The teacher's responsibility as a counselor to young children.

Edu 563 *Measurement and Evaluation in the Elementary School* 2 s. c.
This course is concerned with the various techniques that may be used to measure and evaluate pupil progress in the elementary grades. Sociometric techniques, anecdotal records, techniques of observations, open question procedures are a few methods considered.
Prerequisite. Child Development or its equivalent.

Edu 591 *Research Seminar* 1-2 s. c.
(Elementary Education Majors)
Proposed research problems and procedures are formulated and presented for discussion and constructive, critical evaluation and analysis. Special attention is given to the format and preparation of research studies and guidance during the various stages of progress. Students who have not completed their primary research papers, research projects, or theses in other courses must sign for this course until the research has been completed.
Prerequisites: Edu 500 Methods and Materials of Research, and Edu 510 Educational Foundations.

ENGLISH

Eng 502 *History of the English Language* 2 s. c.
An examination of the basic influences on the structure and general nature of the English language as it is used today.
Prerequisite: At least one undergraduate course in the field of language structure and usage.

Eng 511 *English Literary Criticism (1800-1920)* 2 s. c.
A study of the critical dicta which influenced the course of English literature between 1800 and 1920. Special considerations will be given to such major figures as Coleridge, Hazlitt, Ruskin and Arnold.
Prerequisite: At least one undergraduate course in English literature.

Eng 512 *American Literary Criticism (1800-1920)* 2 s. c.
A study of the critical dicta which influenced the course of American literature between 1800 and 1920. Special consideration will be given to Poe, Whitman, Howells, and the New England writers.
Prerequisite: At least one undergraduate course in American literature.

Eng 513 *English Literary Movements* 2 s. c.
A detailed analysis of the development of English literature through a study of the major movements. Special emphasis will be placed on the influence of major writers on literary concepts, trends, and critical dicta.
Prerequisite: At least one undergraduate course in English literature.

Eng 514 *American Literary Movements* 2 s. c.
A detailed analysis of the development of American literature through a study of the major movements. Special emphasis will be placed on the influence of major writers on literary concepts, trends and critical dicta.
Prerequisite: At least one undergraduate course in American literature.

Eng 521 *English Literature to Chaucer* 2 s. c.
A study of certain significant figures in English literature beginning with the Old English Period and closing with the Pearl Poet. Emphasis upon origins, trends, and influences. Reading, reports, research.

Eng 522 *Chaucer* 2 s. c.
A study of the life and works of Chaucer; readings, reports, and class discussions of major and minor works and theories of origin and influence.

Eng 523 *Eightcenth Century Novel* 2 s. c.
The significant master works of prose fiction in England from Defoe to the end of the century; development of types of the novel; the theories of structure, techniques of characterization, and the philosophies of the major authors.

Eng 524 *British and Continental Short Story* 2 s. c.
A consideration of the short-story form especially as concerned with its origin, development, and current trends. Emphasis upon the influences of German, French, and Russian writers upon the British form.

Eng 525 *Biography* 2 s. c.
A survey of biographical writings from Plutarch to the present. Emphasis upon origins and trends and major figures such as Boswell and Johnson.

Eng 526 *Tudor Poetry and Prose* 2 s. c.
A study of the nondramatic literature in England from Wyatt to Jonson. Special emphasis is placed upon the interplay of exterior and interior influences in developing England's Golden Age.

Eng 527 *Stuart Literature to the Commonwealth* 2 s. c.
An analysis of the growth of English literature from the accession of James I to 1650. Special consideration to the metaphysical school, the sons of Ben, and the political writers.

Eng 528 *Milton* 2 s. c.
Detailed study of the work of John Milton, including major and minor poems and some of the prose.

Eng 529 *Victorian Prose* 2 s. c.
A study of the prose writers of the last half of the nineteenth century with emphasis upon the major writers. Both fiction and non-fiction considered.

Eng 531 *Shakespeare's Predecessors in Drama* 2 s. c.
A course designed to trace the development of the drama from classical antiquity to the time of Shakespeare. The purpose is to consider the nature, structure, and other major aspects of the principle types of drama.

Eng 532 *Advanced Shakespeare* 2 s. c.
Discussion with readings, reports, and original research on selected plays; study of origins, development, and influence.

Eng 533 *Nineteenth Century Drama* 2 s. c.
A study of the development of drama as an institution in the Nineteenth Century. Although the primary emphasis will be upon English and American drama, continental influences will also be treated.
Prerequisite: At least one undergraduate course in drama.

Eng 534 *Nineteenth Century American Prose* 2 s. c.
A study of the major writers and influences in the 19th century American prose.
Prerequisite: At least one undergraduate course in the field of American literature.

Eng 535 *Twentieth Century American Writers* 2 s. c.
A study of the major writers and literary movements of the period, 1900 to 1960.
Prerequisite: At least one undergraduate course in American literature.

Eng 537 *Emerson and Thoreau* 2 s. c.
Detailed study of the works of Emerson and Thoreau and of writers associated with them.

Eng 541 *Greek and Roman Literature in Translation* 2 s. c.
A study of the major dramatic, epic, and lyric works from the classical period with their influences upon Anglo-American literature from the sixteenth to twentieth centuries.

Eng 543 *Advanced Problems in Public Speaking* 2 s. c.
Intensive study of parliamentary procedures for both large and small groups with special emphasis on the problems of the chairman, committee members, conventions, etc.; leadership and participation in group discussion on current public questions; speech making. Special research project is required.

Eng 544 *Problems of Speech Correction* 2 s. c.
Discussion, lectures, and demonstrations on the rehabilitation of stammerers, of persons with cerebral palsy, cleft palate, hearing loss, and aphasia. Special emphasis on diagnosis, problems, integration with medical and training centers, treatment, and adjustment with society.

Eng 550 *Literature for the Elementary School* 2 s. c.
A course designed to acquaint the student with the content and approach of the literature program in the elementary school. Although this course is designed primarily for elementary school teachers, it can also be pursued profitably by administrators, curriculum specialists and others interested in the elementary school level.

FOREIGN LANGUAGES

GROUP I

Lan 501 *Linguistics* 2 s. c.
An introduction to the study of language as a science. A history of languages in general, with particular attention to the Indo-European branch. The application of the science of linguistics to the teaching of languages.

Lan 502 *FLES* 2 s. c.
A study of the problems involved in the teaching of foreign languages in the elementary school. Teaching materials are surveyed and attention is given to special techniques required for the teaching of a foreign language at the elementary school level. Observation of actual elementary school foreign language classes.

Lan 503 *Techniques of Language Teaching* 2 s. c.
An intensive survey and critical analysis of the texts and other materials used in foreign language teaching. A study of the latest approved methods of teaching foreign languages at the secondary level. Observation of secondary level foreign language classes being taught.

Lan 504 *The Language Laboratory* 2 s. c.
A study of the latest approved techniques for the use of the language laboratory in foreign language teaching. A survey and analysis of commercial materials available for use in the language laboratory. Practice in composing laboratory drills and in the preparation and voicing of scripts.

GROUP II — FRENCH

Fre 511 *Romance Philology (French)* 3 s. c.
A study of the historical development of French phonology and morphology from their earliest beginnings to the present. A survey of the chief characteristics of the various Old French dialects, based on an analysis of Old French texts.

Fre 512 *Explication de Texte* 3 s. c.
A study of the French technique of textual and stylistic analysis known as "explication de texte". Practice in applying these techniques is undertaken through a series of analyses of the works of selected French writers.

Fre 513 *Phonetics* 3 s. c.
An intensive study of the sounds of French through the application of the phonetic alphabet with a view to developing an absolute mastery of the correct pronunciation and intonation of the French language. Laboratory drill with the latest recordings by leading phoneticians.

Fre 514 *Advanced Grammar and Composition* 3 s. c.
A conceptual approach to the study of French grammar. An intensive analysis of the various principles of French grammar and syntax. An evaluation of the changes which have occurred in French grammar and usage in recent decades.

Fre 520 *Rabelais and Montaigne* 3 s. c.
A study of the works of the two major prose writers of the French Renaissance. A survey of the major critical works which deal with their life and writings.

Fre 521 *Moliere* 3 s. c.
An intensive analysis of the plays of Moliere. A study of the history of comedy in France, and of the life and times of Moliere the man.

Fre 522 *Voltaire and Rousseau* 3 s. c.
A study of the major works of Voltaire and Rousseau and a critical and analytical comparison of their respective philosophical points of view. Their impact on the character of Western civilization is also analyzed.

Fre 523 *Proust* 3 s. c.
The reading and intensive analysis of *A la Rechcrche du Temps perdu.* A survey of Proustian criticism is undertaken along with a study of Proust the man. The place of Proust in the history of the novel is evaluated.

Fre 524 *Gide* 3 s. c.
A study of Gide's life and writings. An attempt is made to synthesize Gide's philosophy as an artist and as a human being. A discussion is carried on of Gide's importance in French literature of the first half of the 20th Century.

Fre 530 *French Classical Tragedy* 3 s. c.
The tragedies of Corneille and Racine are read and analyzed. The history of tragedy in France is studied to give the student an insight into the forces which culminated in the work of the great classical dramatists.

Fre 531 *The French Novel (to the end of the 19th Century)* 3 s. c.
A history of the novel in France, with particular emphasis on the works of the major French novelists of the nineteenth century: Hugo, Stendahl, Balzac, Flaubert, and Zola.

Fre 532 *The 20th Century French Novel* 3 s. c.
A study of the French novel in the twentieth century and of the various philosophical, social and aesthetic doctrines which have helped to shape it. An analysis of the masterpieces of the outstanding novelists of the century. (Excluding Proust and Gide, who are treated in a separate course.)

Fre 533 *Lyric Poetry* 3 s. c.
A study of the evolution of French lyric poetry with particular stress on the 19th century. An analysis of the forms, techniques and rules of French versification. A survey of French poetic doctrine as it evolved through the centuries.

Fre 534 *The Contemporary French Theater* 3 s. c.
The principal dramatic works of the 20th century are studied and analyzed against the history of the development of the theater in France. The latest techniques and innovations are analyzed and an assessment of their importance and impact on the modern theater is attempted.

GERMAN

GROUP III — GERMAN

Ger 511 *German Philology* 3 s. c.
A study of the development of German phonology and morphology from their earliest beginnings to the present. A survey of the chief characteristics of Gothic, Old Saxon and Old High German will be introduced. Analysis of the language of the Low German Heliand and the earliest High German documents will be given.

Ger 512 *German Civilization* 3 s. c.
This course will deal with the social structure of Germany, the evolution of its institutions, and its achievements in the various fields of art.

Ger 513 *Phonetics* 3 s. c.
A study of the sounds, forms, and structure of modern standard German, using recorded materials and selected texts.

Ger 514 *Advanced Grammar and Composition* 3 s. c.
Study of stylistic resources of modern German, based on reading and analysis of selected texts. Discussion, oral and written drill.

Ger 520 *The Age of Goethe* 3 s. c.
A thorough study of the Golden Age of German literature. German Enlightenment, Storm and Stress and Classicism will be studied. Literary masterpieces will be read and analyzed. Special attention will be given to English influences, especially Shakespeare.

Ger 521 *Goethe* 3 s. c.
A study of Goethe's works and his development toward classicism. A survey of the major critical works which deal with his life and writings.

Ger 522 *Schiller* 3 s. c.
A thorough study of Schiller's dramatic works and his development toward classicism. A survey of the major critical works which deal with his life and writings.

Ger 530 *German Reformation, Baroque and Pseudo-Classicism* 3 s. c.
Literary trends in the period of Reformation and Counter Reformation will be studied. The influence of French classicism upon German Literature of the late 17th and early 18th century will be analyzed and discussed.

Ger 531 *German Literature of the 19th Century* 3 s. c.
Romanticism, poetic realism, naturalism with special emphasis on the great dramatic and lyric poets of the period.

Ger 532 *German Drama of the 19th and 20th Centuries* 3 s. c.
A study of the works of the major dramatists of the 19th and 20th Centuries. Special attention will be given to the dramatists of naturalism and expressionism.

Ger 533 *German Existentialism and Surrealism* 3 s. c.
Existentialism, the ferment in German literature of recent years will be studied. The concepts of the German existential philosophers Jaspers and Heidegger will be analyzed in the light of their influence on recent literature. Foreign influences (Kierkegaard, Sartre) will also be studied.

Ger 540 *The German Short Story* 3 s. c.
A study of the German Short Story from Romanticism to the present. German Feuilleton will be included. Special attention will be given to Thomas Mann, Kafka and the post-second World War writers.

Ger 541 *Modern German Poetry* 3 s. c.
A study of modern German poetry with emphasis on Stefan George and his circle, and Rainer Maria Rilke.

Ger 542 *Modern German Novel* 3 s. c.
The following trends of the modern German novel will be studied: Naturalism and Decadence, Impressionism, Expressionism, the Regional and Historical novel, the Exotic novel, and the novel of Race and Soil.

GROUP IV — SPANISH

Spa 510 *Advanced Spanish Phonetics* 3 s. c.
A theoretical and practical approach to phonology, phonetics and phonetic transcription. Regionalistic and dialectal variations are also studied with Tomas Navarro Tomas' standard text: *Manual de pronunciacion espanola.*

Spa 511 *Advanced Spanish Grammar and Stylistics* 3 s. c.
An informal rapid review of Spanish grammar with emphasis on related problems fundamental to the American classroom. Exercises will include idiomatic expression, various levels of style and translation.

Spa 520 *Cervantes* 3 s. c.
Detailed study and analysis of the life and works of Miguel Cervantes Saavedra: the *Novelas ejemplares, Ocho comedias y ocho entremeses, La Numancia, La Galatea,* all of which lead to a careful study of the meaning, philosophy and influence of *Don Quixote.*

Spa 530 *Medieval Spanish Literature* 3 s. c.
A study of the *mester de juglaria* and the *Poema del Cid;* a view of early related epics and the *mester de clerecia* leads to an analysis of Spain's early historical chronicles. The beginnings of the early Spanish theatre are traced in the framework of this background.

Spa 531 *Spanish Renaissance and Humanism* 3 s. c.
Consideration of the leading proponents of the humanistic spirit in Spain: Nebrija, Erasmus, the brothers Valdes, the Spanish Inquisition, the Renaissance theatre and the novel, Juan del Encina, Torres Naharro and la *Celestina.*

Spa 532 *Nineteenth Century Spanish Literature* 3 s. c.
The development of the philosophy and spirit of the Spanish romanticists and *costumbristas,* Duque de Rivas, Espronceda, Gomez de Avellaneda, Becquer, Larra and Mesonero Romanos; the drama and novel as represented by: Pardo Bazan, Palacio Valdes, Clarin and Galdos.

Spa 533 *The Generation of 1898* 3 s. c.
An overview of the revitalizing forces which took hold in the late nineteenth century and a study of the works of: Unamuno, Azorin, Menendez Pidal, Pio Baroja, Valle Inclan, Benavente, Martinez Sierra and Ruben Dario.

Spa 540 *The Picaresque Novel* 3 s. c.
The picaresque novel as a truly indigenous creation of Spain: *Lazarillo de Tormes, Guzman de Alfarache, Vida del Buscon;* the picaresque novel as a literary tradition in Spain and in other literary traditions.

Spa 541 *The Modern Spanish Theatre* 3 s. c.
The "Ibsenite" and social dramas of the late nineteenth century represented by: Lopez de Ayala, Jose Echegaray and Galdos; the transition period headed by Martinez Sierra and the Brothers Quintero will lead to Spain's modernistic drama headed by Federico Garcia Lorca and Alejandro Casona.

GEOGRAPHY

Geo 500 *Biogeography* 2 s. c.
A study of causes and effects of major floral and faunal distributions over the earth. The course will stress the natural, original distribution of plants and animals that are of major economic importance to man, and how man has changed these original patterns. The study of new and potential uses by man of the plant and animal world will be included, with particular attention given to the attempt by man to enlarge the distribution area of the plants and animals he finds economically useful.
Prerequisite: World Geography.

Geo 501 *Geomorphology* 2 s. c.
The course deals with the classification of major and minor surface features of the earth and their origins. The structures of land forms and the earth processes which brought them about are explained with special references to their relationships to mining, engineering, and other human activities. The interpreting of land forms from topographic maps is an important part of the course.

Geo 502 *Regional Climatology of the Continents* 2 s. c.
A descriptive and explanatory analysis of the characteristics of the climates of each continent. Emphasis is on deviations from the normal world pattern as they are developed through climatic controls associated with the various continents.

Geo 503 *Advanced Cartography* 2 s. c.
An advanced study of cartographic methods including laboratory work in advanced construction techniques. Map construction, graphic representation, land form drawing, lettering and color reproduction are included in the work.
Prerequisite: Geography 303 or consent of department head.

Geo 504 *Regional Physiography of North America* 2 s. c.
A regional analysis of the surface configuration of the North American continent. Emphasis will be placed on the geographical interpretation of those aspects of the terrain especially significant in affecting utility of the land.
Prerequisite: Physiography, Geology or Geomorphology.

Geo 520 *Problems of Economic Geography* 2 s. c.
A study of economic situations in our country and the world, with emphasis on the major problems of production, surplus, marketing, conflicting national policies and special problem areas. Also the problems in gathering, presenting and comparing economic data will be analyzed.

Geo 521 *Agricultural Geography* 2 s. c.
A survey of the distribution, variations and significance of the major types of agriculture in the world. Analysis of major world crops and their distribution, with emphasis on relationships to climate, soils, terrain and economic factors will be developed.

Geo 522 *Ethnic and Demographic Problems of Geography* 2 s. c.
A study of the characteristics and distribution of ethnic groups, and the geographic problems that arise from densities of population involving ethnic groups. The course will include present and future distribution and re-settlement problems, with geographic factors used as a basis for interpretation.

Geo 523 *Political Geography* 2 s. c.
A study of the development and trends of the present world political pattern. The course involves spatial factors affecting the organization of the various political units of the world. Patterns of geographical development will be considered and analyzed.

Geo 524 *Modern Concepts in Global Geography* 2 s. c.
The course provides an over-all view of physical and human geography on a world scale. Analysis of the physical environment, the distribution of man on the earth and relationships between geography and political functions are important aspects of the course. The study of earth space is related to economic and strategic factors.

Geo 525 *Geography in World History* 2 s. c.
Geographic influences in selected aspects of world history are developed. Geographic factors in settlement and expansion, the development of raw materials and major trade areas and routes analyzed. Study is made of changes in the use of land and natural resources in significant periods of world history and the geographic factors related to these changes.

Geo 526 *Advanced Conservation of Natural Resources Workshop* 2 or 3 s. c.
An economic and geographic appraisal of resource conservation in the United States, including factors of regional and national planning for resource utilization. The summer offspring of this course may be organized as an advanced conservation workshop.

Geo 527 *Geography of Regional and Urban Planning* 2 s. c.
Geographical concepts of space factors, resources, natural situation and location will be applied to regions and urban centers. Both national and local regional and urban problems will be analyzed with special studies made of local or near-by planning projects.

Geo 528 *World Economic Patterns*
The course will consider world resource regions and patterns of productivity. Part of the course will deal with changing patterns in world trade. New economic alignments, such as the Common Market groups of Western Europe will be discussed. The effect of newly discovered raw material resources, and the impact of increased industrialization in previously non-industrialized nations and regions will be analyzed. The problems associated with the economic development of backward areas will also be studied.

Geo 540 *Geography of the United States and its World Relations* 2 s. c.
An analysis of the interdependence of our country in the world of nations. Changing patterns within the United States will be analyzed in relation to economic strategic and political developments in other parts of the world.
Prerequisite: World Geography.

Geo 541 *Geography of Canada* 2 s. c.
A study in the physical and cultural regionalism of Canada. The course will survey the natural resources and patterns of human occupance including agriculture, industry and transportation.

Geo 542 *Geography of Mexico and Middle America* 2 s. c.
A regional geography of Mexico, Central America and the West Indies. The course will survey the development of political divisions and their present day functions in relation to their geographic conditions. Special emphasis will be placed on the geographic analysis of the part these countries play in Inter-American affairs.

Geo 543 *Geography of South America* 2 s. c.
A regional geography of South America, including an analysis of the physical base, settlement, agriculture, mining and manufacturing. Emphasis will be placed on Inter-American relations of these countries.

Geo 544 *Geography of Europe (excluding the U. S. S. R.)* 2 s. c.
An advanced study of the geographic factors in the economic, social and political progress of the European nations. Emphasis will be put on current major problems of the continent in light of their geographic background. Consideration will be given to some geopolitical problems.

Geo 545 *Geography of Africa* 2 s. c.
A study of the physical structure and resources of the continent in light of competing cultures and economic forces which have helped shape the human geography of the continent. The impact of alien cultures, with particular emphasis on Islamic and Western influences in creating geographic regions will be considered. Africa's strategic importance in the present and future world picture will be noted.

Geo 546 *Geography of Asia (excluding the U. S. S. R.)* 2 s. c.
An over-all survey of Asia including a study of physical and geographic regions, with concentrations on the monsoon realm, the Far East and Southwest Asia. The resources and major activities of the people in regions of densest population and greatest economic and strategic importance will be stressed.

Geo 547 *Geography of the Soviet Union* 2 s. c.
The course includes both European and Asiatic U. S. S. R. and the satellite nations. The elements of the geographic environment and the major regional divisions will be studied in relation to the resource base and the economic and political aims of the country. Emphasis will be placed on the positive and negative geographic factors in relation to the strength and weakness of U. S. S. R. as a major world power.

Geo 548 *Geography of the Pacific Lands* 2 s. c.
A study of the physical and cultural geography of Pacific Asia, Australia and the major island groups. Emphasis will be placed on the resources, economic factors, and strategic significance of these areas in light of the present day world economic and political situations.

Geo 580 *Graduate Seminar in Geography in Education* 2 s. c.
An advanced course on geography in the present day American schools. The work is concerned with meeting the needs of those expecting to teach geography. Techniques of teaching geography in the various forms in which it is currently presented in relation to the curriculum are emphasized.

Geo 581 *Graduate Seminar in Modern Philosophy of Geography* 2 s. c.
A review of modern geographic thought with emphasis on the contributions of American geographers. Points of view on environmentalism, regionalism and other doctrines that find expression in geographic literature will be examined.

Geo 582 *Methods and Materials in Geographic Research* 2 s. c.
The course will survey the various sources of geographic information and the methods of handling such materials for compiling into reports and geographic writing. Bibliographic aids and archival sources of geographical material will be used in preparation of research reports.

Geo 583 *Geography Field Course* 2 s. c.
An advanced field course in geography to include both urban and land use studies. Field methods, mapping and assembling of field study findings into geographical reports will be part of the course.

Geo 584 *Workshop in Geography* 2 s. c.
A combination of research, field work, teaching procedures and group studies on one or several phases of geography will be organized and carried out on a workshop basis.

HEALTH AND PHYSICAL EDUCATION

HEd 500 *Methods and Materials of Research* 2 s. c.
A study of the techniques of research in education with specific application to the field of health, physical education and recreation.
Prerequisite: A course in Measurement and Evaluation in Health, Physical Education and Recreation.

HEd 501 *Advanced Rhythmical Foreign Gymnastics* 2 s. c.
A comparative study of foreign systems of rhythmical gymnastics stressing music and rhythmical movement done in free style with hand apparatus such as balls, hoops, and wands.

HEd 502 *Elementary Physical Education Workshop* 2 s. c.
A complete orientation for the teaching of elementary physical education. Principles and practices will be presented and developed. A variety of appropriate activities will be considered from the standpoint of their use at various grade levels.

HEd 503 *Advanced Aquatics* 2 s. c.
This course for aquatic directors, physical education supervisors, recreation and camp directors, and school administrators. A prerequisite of a high degree of competitive skill is not necessary. The course contains a clinical approach to the teaching and coaching of swimming, diving, and life saving with emphasis on the latest techniques of class organization and instruction. There is also an analysis of competitive diving and swimming strokes from the problem-solving viewpoint; a planning of an all-inclusive aquatic program for schools and camps; and a critique on facilities, equipment and personnel direction. Each student will also pursue a major area of research.

HEd 504 *Dance in Education* 2 s. c.
Contemporary use of all forms of dance found in schools. Opportunities will be given to develop programs in a specific area of choice. Resources in terms of a variety of music will be fully developed.

HEd 510 *School and Community Recreation* 2 s. c.
A study of community recreation with special emphasis on the role of the school in relation to the total program.

HEd 511 *Field Problems in Recreation* 2 s. c.
A study of the field problems commonly met in recreation. Each student will work in a specific problem area in a recreational field. Conferences and resources will be used in developing solutions to the problem. (Admission by approval of major professor and the Director of Health, Physical Education, and Recreation.)

HEd 512 *Outdoor Education Workshop* 2 s. c.
A study of the principles, procedures, and skills necessary to conduct an outdoor education program. Students will participate in and serve as leaders in a college sponsored outdoor education program.

HEd 520 *Advanced Coaching* 2 s. c.
A study of recent trends and changes in theories and techniques of teaching sports. Mechanical principles of efficient movement will be analyzed. Emphasis will be on research related to competitive performance. Specialists in several areas of coaching will serve as guest panelists in this course.

HEd 521 *Administrative Supervision of Interschool and Intramural Athletics* 2 s. c.
The organization and administration of athletic and intramural programs including the theory principles, and objectives at various levels of competitions. Job specifications of athletic and intramural directors and the delegation and assumptions of responsibilities will be given detailed consideration. Practical operating policies and procedures for athletic administrators will serve as a guide for this course.

HEd 530 *Physiological and Psychological Bases of Motor Activity* 2 s. c.
A course devoted to the study and analysis of scientific data related to the selection, value, and techniques of instruction in physical education activities. Major emphasis will be on the basic scientific approaches to motor learning and the development of skill patterns.
Prerequisites: Anatomy and Physiology I and II, and Applied Physiology or their equivalents.

HEd 531 *Adaptive Physical Education Workshop* 2 s. c.
The recognition of the atypical child as part of a total teaching situation. The nature and extent of common handicaps will be studied. Emphasis will be based upon positive application of activities in the physical education field to handicapped children individually and in groups. Students will be placed in the positions of assistant instructors in programs for handicapped children. Activities will include swimming, sports, and games.
Prerequisites: Undergraduate psychology, anatomy and physiology courses.

HEd 540 *School Health Problems* 2 s. c.
A course designed as in-service training to study the current school health problems by using the Case Technique Method. A wide variety of materials, methods, and resources will be utilized in working on these problems.
Prerequisites: One year's teaching experience or equivalent.

HEd 541 *School-Community Health Education Workshop* 3 s. c.
A study of common problems in the home, community, and school health education areas. The five-point program follows: to provide in-service training in health education; to stimulate and promote an effective follow-up program in health services; to coordinate the efforts of allied health agencies; to stimulate and promote interest in local health units; and to develop an awareness of the place of mental health in the total health program of the home-school-community.

HEd 550 *Foundations and Principles of Health, Physical Education, and Recreation* 2 s. c.
The basic approach to health, physical education, and recreation through the study of past and contemporary philosophies, principles, objectives, and trends.

HEd 560 *Contemporary Problems in Health, Physical Education, and Recreation* 2 s. c.
An overview of the problems in teaching health, physical education, and recreation with specific relationship to in-service aspects. Emphasis will be placed on the factors and variables which influence solutions to these problems.

HEd 561 *Measurement and Evaluation in Health, Physical Education, and Recreation* 2 s. c.
The study of statistical and evaluative procedures and their application to the field of health, physical education and recreation.

HEd 562 *Administrative and Supervisory Practices in Health, Physical Education and Recreation* 2 s. c.
The nature and extent of the positions of directors or supervisors of health, physical education and recreation. The job specifications will be defined and operational principles and procedures will be developed.

HEd 570 *Curriculum Developments in Health and Physical Education* 2 s. c.
Contemporary trends in health and physical education curricula at the elementary, secondary and college levels. Extensive surveys, reports, and analysis of curriculum practices will be applied to the construction of health and physical education programs.

HEd 580 *Contemporary Practices in Safety Education* 2 s. c.
A course designed to evaluate and interpret research studies and practices affecting the teaching of safety education in schools and colleges.

HEd 591 *Seminar in Health, Physical Education and Recreation* 2 s. c.
To be taken concurrently with the development of a problem or a thesis. (Admission by approval of major professor and the Director of Health, Physical Education, and Recreation.)

HEd 592 *Research Project* 2 s. c.

HEd 593 *Thesis* 3 s. c.

MATHEMATICS

Mat 501 *Fundamental Concepts of Mathematics* 2 s. c.
A course for the elementary teacher. It includes development of our number system, the base of a number system, and the role of the various types of numbers and operations in mathematics. The course stresses the meanings and understandings of the mathematics related to the elementary program.

Mat 502 *A Survey of Modern Mathematics* 2 s. c.
A course to acquaint teachers with recent developments in mathematics. The topics included for study are selected from mathematical structure properties of integers, sets, groups, logic, Boolean algebra and non-Euclidean geometry.

Mat 503 *History of Mathematics*
A course tracing the development of mathematics from the prehistoric to the present. This course involves a study of various areas in mathematics as well as the men responsible for the development.

Mat 511 *Higher Algebra* 3 s. c.
A course in linear algebra. It includes matrices, determinants, their theory and application to systems of equations.

Mat 512 *Theory of Numbers* 3 s. c.
A survey of the elementary arithmetic, of the integers. The course includes properties of numbers, prime numbers, factorization, congruences and diophantine equations.

Mat 513 *Foundations of Algebra* 3 s. c.
A course in modern algebra. It treats abstract algebraic structures such as integral domains, groups, rings and fields from an axiomatic point of view.

Mat 521 *Educational Statistics* 2 s. c.
A course in statistics for teachers. The course includes measures of central tendency, deviation, correlation and tests of significance of results.

Mat 522 *Advanced Educational Statistics* 2 s. c.
A continuation of Mat 521. It includes applications of various distributions, analysis of variance and covariance and multivariate analysis.

Mat 523 *Probability and Mathematical Statistics I* 3 s. c.
A course involving the mathematical treatment of random phenomena and an introduction to statistics. Included for study are elementary concepts of probability, conditional probability, compound events, expectation, random variable, and elementary statistics.

Mat 524 *Probability and Mathematical Statistics II* 3 s. c.
A continuation of Mat 523 emphasizing the mathematical aspects of statistics. It includes correlation, sampling, tests of significance, analysis of variance and other topics.
Prerequisite: Mat 523.

Mat 531 *Foundations of Geometry* 3 s. c.
The course begins with a study of axiomatics and the general structure of any geometric system. Specific study is made of Euclidean Geometry according to the postulates of Euclid and Hilbert. Certain topics in Projective and Hyperbolic Geometry are also investigated.

Mat 532 *Projective Geometry* 3 s. c.
A course in the projective properties of various configurations. Among the topics included for study are projective theory of conics, duality, harmonic sets, cross ratio, Desargue's and Pascal's Theorems, poles and polar relationships.

Mat 535 *Topology* 3 s. c.
An axiomatic approach to the basic notions of point set topology. The following topics are given a rigorous treatment: metric spaces, topological spaces, product spaces, transformations, completeness, compactness and separability.

Mat 541 *Advanced Calculus I* 3 s. c.
A course in the foundations of real analysis. Included for study are a rigorous treatment of limits, continuity, derivatives, sequences and Riemann integrals.

Mat 542 *Advanced Calculus II* 2 s. c.
Continuation of Mat 541. Included for study are functions of several variables, partial derivatives, implicit function theorems, transformations and multiple integrals.
Prerequisite: Mat 541.

Mat 543 *Differential Equations* 3 s. c.
A course in the theory, solution, and application of ordinary differential equations. It includes differential equations of the first and second orders.

Mat 545 *Introduction to the Theory of Function of a Real Variable* 3 s. c.
A course in real analysis. Included for study are the real number system, sets, order, theory of limits, continuity, derivatives and integrals.

Mat 547 *Introduction to the Theory of Functions of a Complex Variable* 3 s. c.
A course in complex analysis. Included for study are the complex number system, analytic functions, differentiation and integration, expansions and conformal mapping.

Mat 550 *Methods and Materials of Research in Mathematics Education* 3 s. c.
A course involving a study of the techniques of research in mathematics education. Included are an analysis of the various types of research, selection of a problem, selection of appropriate procedures and the formulation of a plan of investigation and report.

Mat 551 *Arithmetic: Methods, Curriculum and Research* 3 s. c.
A course in recent developments in the teaching of arithmetic. The course stresses meaning and understanding in arithmetic by analyzing the social and mathematical phases of numbers. Content of the arithmetic curriculum as well as recent research are also considered.

Mat 552 *Seminar in Mathematics Education* 3 s. c.
A critical re-examination of secondary school mathematics from a professional point of view. The course stresses methods of teaching as well as actual subject matter. Modern trends in secondary school curricula are also considered.

Mat 600 *Research Report* 1-2 s. c.

Mat 610 *Thesis* 3 s. c.

MUSIC

A. REQUIRED COURSES

Section I.

a. Required Course

Mus 510 *Current Trends in Music Education* 2 s. c.
Current principles and philosophy in music education in relation to modern educational philosophy and curriculum practices.
Prerequisite: Elementary and Secondary Music Methods.

b. Required Elective Course (select one) 2 s. c.

Mus 511 *Administration of Public School Music* 2 s. c.
A consideration of administrative problems, curricular content scheduling, in service training of teachers, and supervisory planning will be included. Participants may bring in problems which have been encountered in the supervision and administration of public school music.
Prerequisite: Teaching experience.

Mus 512 *Music Education in the Secondary School* 2 s. c.
This course deals with the general music class in the Secondary School with special emphasis on the problems in the Junior High School.
Prerequisite: Secondary Music Methods and Teaching Experience.

Mus 513 *Music in the Elementary School* 2 s. c.
This course is planned for the music educator with emphasis upon problems, procedures, and materials and their practiced application in the Elementary class room.
Prerequisite: Elementary Music Methods and Teaching Experience.

Mus 514 *Pedagogy of Music Theory* 2 s. c.
A study of the techniques and materials for use in teaching the various skills included in courses in music theory. Special emphasis will be placed on a harmonic review and theoretical instruction in the public schools. In addition, a comparative study of the work of outstanding theorists, past and present, will be included.

Mus 515 *Marching Band Techniques and Materials* 2 s. c.
A detailed study of the Marching Band including organization, music, materials, care of instruments and uniforms, marching essentials and contemporary techniques.

Mus 516 *Piano Pedagogy* 2 s. c.
A consideration of principles and procedures of piano teaching at all levels. Sound practice procedures, as well as the essentials of technique, style, and musicianship will be demonstrated through performance. Opportunity to teach and prepare criticisms will be provided.
Prerequisite: Teaching experience or evidence of sufficient pianistic background to profit from the course.

Mus 517 *String Pedagogy* 2 s. c.
The principles and techniques of teaching applied music. A concentrated study of the presentation of techniques from early through advanced grades, with an analytical examination of carefully chosen and recommended material for teachers.
Prerequisite: Performing experience on string instruments.

Mus 518 *Vocal Pedagogy* 2 s. c.
A practical approach to the principles and techniques of teaching voice at all levels is presented. Stress is laid upon materials and procedures concerned with improving the tone quality of the individual and/or the group.
Prerequisite: Teaching experience or evidence of sufficient vocal background to profit from the course.

Mus 519 *Music Appreciation in the General Music Program* 2 s. c.
A comprehensive study of the many different approaches to the development of musical understandings which stimulate a sincere appreciation of music. Particular emphasis is placed upon materials and their reflection in pupils' appreciative responses.

Section II. Applied Music — require (a, b, or c) 4 s. c.

a. Keyboard

Mus 541-551 *Advanced Piano or Advanced Organ* 1 or 2 s. c.
Continued study in all phases of piano or organ performance through the literature from Bach to the contemporary period; opportunity for recital performance will be provided.
Prerequisite: 4 credits in piano or organ with performing experience.

Mus 546-549 *Piano Ensemble and Master Class* 1 or 2 s. c.
Emphasis will be placed on the study and performance of accompaniment material, chamber music, and original works and arrangements for four-hands and two-piano combination. Both classical and contemporary literature will be considered. Rehearsal techniques in ensemble playing will receive stress.
Prerequisite: Pianistic ability at a level to function effectively in the class.

b. Vocal

Mus 503 *Advanced Choral Conducting* 2 s. c.
Discussion, study, and practical application of choral conducting techniques involved in the performance of the music of the various schools of choral writing, sacred and secular.
Prerequisite: Choral conducting.

Mus 531-535 *Advanced Voice* 1 or 2 s. c.
Continued study in all phases of vocal techniques. Development of repertoire from as many schools as possible including widely contrasting styles for use in church and recital. A voice major should give a recital of three or four groups of songs.
Prerequisite: 4 credits in voice and performing experience.

Mus 536-537 *Vocal Ensemble and/or Chorus* 1 s. c.
Participation in the preparation of choral and/or ensemble programs for concert performance.
Prerequisite: Chorus experience equivalent to the undergraduate requirement for chorus; sufficient voice and reading ability to profit by extensive work in this area of participation.

Mus 538-539 *Opera Workshop* 2 s. c.
A practical study of the technique of producing musical stage plays. Covers study of music and action only. Includes preparation of roles, coaching, conducting rehearsals, and possible public performance. Participants engage in singing, accompanying, directing, etc., as needed to supply the experience.

c. Instrumental

Mus 501-502 *Advanced Class Instruction in Instruments* 1 s. c.
This class is offered to students who wish to become familiar with the playing and teaching techniques of the orchestra and band instruments.
Prerequisite: Violin, Clarinet, Trumpet.

Mus 504 *Advanced Instrumental Conducting* 2 s. c.
Study and practice of the problems involved in conducting more advanced music literature. Developing the ability to read and conduct full scores of works involving larger orchestra than used in undergraduate work.
Prerequisite: Instrumental Conducting.

Mus 561-565 *Advanced Instruments* 1 or 2 s. c.
Continued study of all phases of technique in relation to the performance of the instrument's repertoire; opportunity for recital performance will be provided.
Prerequisite: 4 credits in instruments and performing experience.

Mus 566-569 *Ensemble and/or Orchestra or Band* **1 s. c.**
Participation in preparation of programs for concert performance.
Prerequisite: Experience equivalent to the undergraduate requirement.

Section III. Structure and Organization of Music)
and/or) Require 4 s. c.
Section IV. Literature and History of Music)

III. Courses:

Mus 521 *Advanced Counterpoint* 2 s. c.
A course devoted to more advanced study of the polyphonic forms including extensive analysis of instrumental and vocal fugues, and creative writing in the more complex forms.
Prerequisite: The equivalent of Counterpoint description in the undergraduate catalogue.

Mus 522 *Advanced Composition and/or Orchestration* 2 s. c.
Creative work in various forms.
Prerequisite: A knowledge of the instruments of the orchestra and experience in their use in original composition.

Mus 523 *Advanced Band Arranging* 2 s. c.
Emphasis is placed on arranging for the high school band. Consideration is given to Bands with inexperienced players and limited instrumentation. Students will have the opportunity to hear their arrangements performed.
Prerequisite: Orchestration or Teaching experience.

Mus 528 *Twentieth Century Musical Styles* 2 s. c.
A theoretical study of the techniques of representative contemporary composers. Emphasis is placed upon the compositional techniques used and includes the study of harmony and form as these bear upon the problems. Creative work in the styles of the composers studied will be attempted.

IV. Courses:

Mus 505 *Contemporary Music* 2 s. c.

A study of the techniques and artistic movements of the 19th century necessary for the understanding of contemporary music. Musical styles and techniques of the 20th century will be studied utilizing recordings, performances, scores, periodicals, etc. Individual composers will be discussed along with the analysis of selected works. The contribution of America to the contemporary musical scene will be emphasized.

Mus 506 *Instrumental Literature* 2 s. c.
Instrumental materials for public school groups at all levels are discussed and evaluated. Program building and music for special programs are emphasized. Actual performance and recordings are used when possible.
Prerequisite: Instrumental methods and performing experience.

Mus 507 *Vocal Literature* 2 s. c.
A course designed to meet the needs of students, artists, and teachers giving them a performing and teaching command of representative song repertoire and program building. Material includes classic song literature, lieder, modern songs, and arias from standard operas and oratorios illustrated by performance of and by records, members of the class, and the instructor.
Prerequisite: 4 credits in voice and performing ability.

Mus 508 *Choral Literature* 2 s. c.
A study of the music used for purposes of choral ensemble through the course of the history of music as an art. Study by participation in actually singing of the material, and by research into some single phase elected by the student with the approval of the professor.

Mus 509 *Piano Literature* 2 s. c.
A course designed to meet the needs of the performing students, teachers, through the medium of records, discussion and performance of great piano literature.
Prerequisite: Performing experience.

Mus 524 *String Literature* 2 s. c.
An intensive study through performance, analysis, and lecture of advanced string literature suitable for performance. The course will stress the problems of technique and the interpretive aspects of representative works of composers from the pre-Bach through contemporary periods.
Prerequisite: Advanced playing ability required.

Mus 525 *Woodwind Literature* 2 s. c.
A comprehensive evaluation of materials for solos and ensembles through actual performance and the use of recordings forms the basis for this course.
Prerequisite: Performing experience.

Mus 526 *Brass Literature* 2 s. c.
A comprehensive evaluation of materials for solos and ensembles through actual performance and the use of recordings forms the basis for this course.
Prerequisite: Performing experience.

Mus 527 *History of the Opera* 2 s. c.
Detailed study of the composers and their major contributions to the opera movement.
Prerequisite: 6 credits of History of Music.

Mus 591 *Music in the Romantic Era* 2 s. c.
This is a course in musicology concentrating on the developments in music during the Romantic Period, roughly between 1800-1900. It analyzes the changes and trends that took place, and presents the new forms in their comparative aspects. The course deals with ideas and movements, and presents composers and their works as they pertained to objectives and understandings.

Section V. Required Electives

Section II or III or IV

B. ELECTIVES (offered as needed)

a. Music Education Students

Mus 581 *Accompanying* 2 s. c.
Designed to consider the principles and problems of accompanying by various types of accompanying experiences in the vocal and instrumental literature. Students are given practical experience in studio accompanying at all levels of difficulty.
Prerequisite: Sufficient pianistic background; 4 credits in piano.

Mus 582 *Form in Music* 2 s. c.
A study of the internal and external aspects of form in music. The varied relationship of motivic elements will be discussed in the analysis of selected works representing the traditional homophonic and contrapuntal forms. Masterworks to be studied will be selected from various periods illustrating a wide variety of styles.

Mus 583 *Music in the Baroque Period* 2 s. c.
A historical and appreciative study of music from 1600 to 1750, with special attention to stylistic and formal developments; significant trends and their relationship to general history and subsequent evolution of the art; some biographical study including Bach and Handel. Outside reading, research papers and classroom discussion required.

Mus 584 *Seminar in Piano Teaching and Teaching Materials* 2 s. c.
A seminar giving in-service music teachers and supervisors the opportunity for class study of outstanding examples of the piano literature. The role and integration of the piano into the public school program along with suitable teaching materials for class and private study will be analyzed and used in demonstrations and student teaching.

Mus 585 *String Literature and Pedagogy* 2 s. c.
This course is designed to give music teachers an understanding of the problems involved in teaching string classes. It is basically a study of techniques and methods required for the effective teaching of string classes.

Mus 586-587 *Vocal Diction (two semesters)* 2 or 4 s. c.
First semester — English, Italian and Latin Diction.
A laboratory course to establish correct pronunciation in singing English, Italian and Latin with practice in the use of the phonetics of these languages in selected standard song repertoire.
Second Semester — French and German Diction.
The study of French and German as applied to singing and the requirements of correct pronunciation through the use of the phonetics of these languages in selected standard song repertoire.

Mus 588-589 *Research Seminar* 1 or 2 s. c. each semester
(one or two semesters)
Special topics designed to meet the need for special study in the particular field of music are studied and analyzed in conferences, discussions, and independent work.
Prerequisite: Eight credits of graduate work including "Current Trends in Music Education" and "Methods and Materials of Research."

b. Elementary Education Students

Mus 572 *Vitalizing Music in the Elementary School* 2 s. c.
A course planned primarily for elementary teachers. It aims to prepare them to teach more effectively and to enrich the program of Music Education in the schools. This will be brought about through study of the various series of song and rhythm materials currently available for use in elementary schools. It will develop the basic knowledge of simple instruments such as the xylophone, autoharp, and percussion.

Mus 573 *Keyboard Activities for the Classroom Teacher* 2 s. c.
Designed primarily for the elementary classroom teacher through a functional study of the piano. Grasp of fundamental principles of accompanying classroom singing, rhythmic and creative activities by studying and performing practical classroom materials.

Mus 574 *Teaching of Music Appreciation in the Elementary Grades* 2 s. c.
A course designed for elementary teachers. It aims to provide suitable and available materials from which units of study for a specific grade are organized for the purpose of enriching the music program. Emphasis is placed upon the use of audio-visual materials.

c. Open to all Students

Mus 560 *Study and Appreciation of the Opera* 2 s. c.
Hearing and studying the opera from its origin to the present. Works from Monteverde to Gluck to Briten, Menotti, and Stravinsky will form the "repertoire" of this course. Greater emphasis will be placed on the most significant contributors to the development of the opera.

Mus 571 *Music Criticism and Aesthetics* 2 s. c.
Exercises in writing musical criticism and essays will be undertaken. Aesthetic concepts of different eras will be discussed.

Mus 580 *Music in National and International Affairs* 2 s. c.
A study of the spheres of influence of music throughout the ages with particular consideration being given to the socio-cultural aspects and the application of this knowledge to everyday life.

Mus 590 *Study and Appreciation of The Symphony* 2 s. c.
An elective course open to music majors and students from other departments and fields of interest. A course presenting the musical forms and literature of the symphony in an intelligible, stimulating, and enjoying way. The course evaluates the basic instrumental forms which directly influence the development of the symphony and follows a comparative growth and expansion through the contemporary period in music. Paramount in the course is the non-technical approach to analysis and the development of meaningful listening procedures for a representative number of carefully chosen compositions from the standard literature for the symphony.

PHYSICAL SCIENCE

Sci 500 *Philosophy of Science* 3 s. c.
Ethical and social implications of modern science and technical skills. The course will deal with scientific methods of inquiry, choice of experimental techniques, and logical interpretation of results.
Prerequisites: Completion of an undergraduate major field in one or more of the sciences.

Sci 501 *Historical Geology* 3 s. c.
The history of plant and animal life on our planet, as shown in the record of the rock formations. Field trips to visit museums as well as laboratory experiences in the study of living forms and fossils will aid graduate students in the comprehension of the great literature of paleontology.
Prerequisite: Completion of an undergraduate field in biological science or general science or the equivalent.

Sci 533 *Physics Demonstrations* 3 s. c.
Development of laboratory skills and techniques necessary for effective organization and presentation of teacher demonstrations. Demonstrations of important principles will be analyzed. Some principles needing additional demonstrations will be identified and possible techniques for meeting these needs will be suggested. The course is open to all teachers of general science and physics.

Phy 524 *Experimental Physics* 1-3 s. c.
A study of classical experiments in modern and atomic physics. There will be some library study and some laboratory study of these experiments. Experiments selected will vary depending upon the background and interest of the students.
Prerequisites: A course in atomic or modern physics.

PSc 502 *Teaching of Physics in the Secondary School* 2 s. c.
An introduction to the newest materials and techniques in high school physics.
Prerequisite: One year teaching experience in physics.

PSc 503 *Teaching of Chemistry in the Secondary School* 2 s. c.
An introduction to the newer approaches to high school chemistry.
Prerequisite: One year teaching experience in chemistry.

PSc 506 *Seminar in Physical Science* 1 s. c.
Topics vary from year to year depending upon the background and interest of the students.
Prerequisite: Three graduate courses in physical science.

PSc 507 *Recent Advances in Physical Science* 3 s. c.
A consideration of selected current developments in physical science including their scientific significance and social or economic implications. Open to all students in the Graduate School.

PSc 508 *Nuclear Physics for Teachers* 3 s. c.
A discussion of nuclear reactions, radioactivity, and aspects of nuclear structure.
Prerequisite: Physics I and II. One course in Modern Physics.

PSc 510 *Electronics for Teachers* 3 s. c.
Electronic circuits using either vacuum tubes or solid state devices are analyzed, constructed, and tested. Topics included are rectification, amplification, oscillation, and selected test circuits. Two hours lecture and two hours laboratory.
Prerequisite: Physics I and II.

PSc 511 *Electricity for Teachers* 3 s. c.
An analysis of the principles of electricity and electromagnetism.
Prerequisite: Ability to use differential and integral calculus. Physics I and II.
Two hours lecture and two hours laboratory.

PSc 512 *Mechanics for Teachers* 3 s. c.
Mathematical analysis of dynamics and statics.
Prerequisite: Ability to use differential and integral calculus. Physics I and II.

PSc 513 *Modern Physics for Teachers* 3 s. c.
An introductory study of 20th century contributions and ideas including special relativity, quantum theory, atomic structure, and solid state structure.
Prerequisites: Two semesters of general physics.

PSc 520 *Mineralogy for the Science Teacher* 3 s. c.
Properties and occurrence of the common and industrially important minerals and their identification in the laboratory. Strategic and critical minerals and the relationship between mineral resources, national development and security will be studied.
Prerequisites: Two semesters of Inorganic Chemistry.

PSc 531 *Acoustics for the Science Teacher* 3 s. c.
A general study of wave phenomena with emphasis upon sound. Mathematical analysis of reflection, refraction, interference, and diffraction.
Prerequisites: Physics I and II.

PSc 532 *Space Science* 3 s. c.
Selected topics from astronomy and related sciences. The major emphasis is upon the problems of exploring the universe beyond Earth's atmosphere and typical results that are being obtained. Open to all students in the Graduate School.

PSc 535 *Advanced Analytical Chemistry* 3 s. c.

PSc 590 *History of the Physical Sciences* 3 s. c.
Developments from Aristotelian concepts to those established by modern scientific methods. Emphasis will be placed on the role of discoveries in the physical sciences in the development of great nations.
Prerequisites: Two semesters of Inorganic Chemistry or two semesters of College Physics.

SOCIAL SCIENCE

Group A

EUROPEAN TOUR

SSc 500 *Seminar in Contemporary European Culture* 4 s. c.
A fully guided tour of Europe with visits to important areas of the major countries. The tour is organized as a seminar with a number of orientation discussions before departure. Opportunity will be provided for questions and discussion periods en route. An annotated diary of the tour will be required from each student, plus a paper in which the student will be encouraged to do individual research on some particular facet of the tour which interests him. Every summer.

His 510 *Early American History* 2 s. c.
A study of the period of colonial development; the era of revolutionary conflict; the experiment in confederation; the constitutional foundation of the republic; and the early years of evolving democracy. Special emphasis is placed on the political, social, economic, and cultural patterns of young America.

His 511 *Growth of the American Nation* 2 s. c.
An intensive study of the growth of the nation and the problems involved therein: nationalism, sectionalism, and democracy; commerce, industry, and the tariff; the rise of the new West; the issues of slavery, Civil War, and reconstruction; the development of big business and labor; and the resurgence of imperialism.

His 512 *The United States as a World Power* 2 s. c.
A study of America's development as a world power. It deals with the impact of industrialization upon society, politics, and economics; the problems of the war and post-war periods; and the work of our nation toward world unity. Emphasis is placed on the immediate background of current affairs.

His 513 *American Constitutional History* 2 s. c.
A study of the origin and development of the American constitution from its English background to the present time. Emphasis is on the progressive adaptation of the law to a changing social and economic order. Such conflicts as nationalism versus state rights, and vested rights versus police power are investigated.

His 514 *Seminar in Recent American Diplomatic History* 2 s. c.
A study of American foreign policy in Europe, Asia, Latin America, and the Middle East from 1939 to the present; in each area of study there is presented the objectives sought by the United States and the political, military, economic, and social policies it pursued in an attempt to achieve these objectives. Special detail is given to two fundamental issues on which free-world survival depends — the nature of our military strategy and the future of underdeveloped countries.

Group B

His 520 *Early European History* 2 s. c.
A study of the latter Medieval Ages with emphasis on commercial expansion and secularism; the Renaissance with emphasis on the rise of individualism, absolutism and the beginning of European expansion; and the Reformation with emphasis on dynastic absolutism, nationalism, and capitalism.

His 521 *17th, 18th, and 19th Century Europe* 2 s. c.
A study of dynastic rivalries of the 17th and 18th centuries; of the commercial colonial rivalries of the European powers of the 18th century; the growth of the revolutionary spirit; and the problems of 19th century Europe.

His 522 *Twentieth Century Europe* 2 s. c.
A study of twentieth century Europe with emphasis on the courses of World War I; the problems of Europe between World War I and World War II; the causes of World War II; and the problems of contemporary Europe.

His 523 *Contemporary World Affairs* 2 s. c.
An analysis of the causes of the cold war between the U. S. S. R. and the United States and the Western Democracies; contemporary efforts to realize peaceful coexistence of the democracies with the Communist dictatorships; and the impact of the nationalist movements of the peoples of Asia and Africa on contemporary world politics.

His 524 *Cultures of the Non-Western World* 2 s. c.
A study of the political, economic, institutional, and cultural growth of Africa, India, Southeast Asia, and the Far East. Emphasis is placed on the comparisons and contrasts between these regions and the rest of the world. Special attention is given to recent interpretations of the many new aspects of Asian and African culture.

His 525 *The Evolution of Modern Russia* 2 s. c.
A pro-seminar in the political, social, cultural and economic development of Modern Russia: the conflict between East and West; the overthrow of Tsardom; the emergence of the Soviet Union; Soviet Communism; and the Soviet Union's role in the present world.

His 526 *Workshop in World Cultures* 2 s. c.
A workshop for teachers-in-service who are assigned to teach World Cultures in the secondary schools of Pennsylvania. The objective of the workshop is to provide an opportunity to study the western and non-western cultures through the use of resource persons and faculty; through research in recent reference materials; and through consultation with representatives of cultural regions.

Group C

His 502 *Methods and Materials for Teaching Social Studies* 2 s. c.
The course is designed to acquaint teachers with current practices and procedures in the Social Studies field with emphasis upon organization and planning; the use of classroom, library, and curriculum materials; testing, measurement, and evaluation; and bibliographical sources for both teachers and students.

PSc 531 *Modern Political Thought* 2 s. c.
Critical analysis of enduring political problems, primarily in the writings of European theorists from Machiavelli to the present; an analysis of the basic concepts of political science; and theories concerning the proper role of the State in society.

PSc 532 *Seminar in International Relations* 2 s. c.
A study of the factors which motivate the actions of nations on the contemporary international scene; with special emphasis on the machinery which members of the nation-state system have evolved for giving effect to their various policies. The methods of diplomacy, international law, and international organization are stressed.

Eco 531 *Comparative Economic Systems* 2 s. c.
A study of major forms of economic organizations with particular emphasis on those existing today. The course is presented so as to contrast the structure of capitalism, socialism, communism and fascism.

Eco 532 *History of Economic Thought* 2 s. c.
The historical evolution of the major economic doctrines; mercantilists and cameralists; physiocrats; Adam Smith and the classical school; the historical school; the Austrian school; Alfred Marshall and the neoclassicists.

Eco 533 *Teaching Economics in Secondary Schools* 2 s. c.
This course is designed for teachers of economics in the secondary schools. Major importance is attached to the development of basic principles of economic reasoning and analysis. Methods by which these principles can be taught are studied and discussed, and teaching materials and aids are evaluated. Attention is especially given to suggested procedures and resources for a minimum course in economics in the secondary school.

Soc 531 *Social Pathology* 2 s. c.
A study of cultural patterns defined by society as undesirable. Analysis of the role of social science principles relating to the functioning of the family, education, and the state in modern society. Pathological patterns in the economic, educational, and political life resulting in social disorganization.

Soc 532 *Historical Sociology* 2 s. c.
A study of the history of social thought from early primitive beginnings to recent contemporary times. It makes use of social thought in Europe and America. Emphasis is given to a survey of the work and personalities of outstanding American sociologists projected on the background of social theory and research.

Group D

His 610 *Thesis** 3 s. c.
Each graduate student must present a thesis developed under the guidance of a member of the Social Science Department. The student must show a marked attainment in some field of his major subject and he should demonstrate that he has acquired the methods and techniques of scholarly investigation.

Supporting Elective 2 s. c.
The graduate student must take course work in fields of study necessary to augment his background for work on his thesis. If the thesis is in the realm of colonial history, for example, his supporting elective must be in Early American History. The elective might be in another department, but only if the thesis subject warrants this. A thesis in colonial literature, for example, would be supported by a course in American Literature.

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* See Page 65 "Course Requirements — Thirty-four Hour Option."

COURSE OFFERINGS OPEN TO ALL CURRICULA

Each curriculum provides an option to the graduate student whereby he may take at least six hours of graduate work outside his major field of concentration.

Listed below is a list of elective courses that are open to all curricula.

BIOLOGY

			Semester credits
Bio	545	Developmental Anatomy	3
Bio	561	Human Heredity	3

EDUCATION

			Semester credits
Edu	502	Principles of Curriculum Development in the Secondary Schools	2
Edu	506	The Junior High School	2
Edu	508	The Core Curriculum	2
Edu	520	Comparative Education	2
Edu	525	The Teacher and Administrative Leadership	2
Edu	530	Selection and Effective Utilization of A-V Materials	2
Edu	531	Creative Teaching	2
Edu	535	Organization and Administration of the Audio-Visual Program	2
Edu	540	In-Service Education Seminar	2
Edu	550	Advanced Educational Psychology	2
Psy	552	Personality and Mental Hygiene	2
Edu	555	Educational Statistics	2
Gui	556	Occupational, Educational, and Social Information and Guidance	2
*Gui	560	Techniques in Guidance and Counseling	2

*Gui	562	Organization and Administration of the Secondary School Guidance Program	2
*Gui	564	Homeroom Guidance in the Junior High School	2
*Gui	565	Supervising the Guidance Program	2
*Edu	566	The Activity Program in the Secondary School	2
Edu	580	History and Philosophy of Education	2
Edu	590	School Law	2

ENGLISH

Semester credits

Eng	502	History of the English Language	2
Eng	511	English Literary Criticism (1800-1960)	2
Eng	512	American Literary Criticism (1800-1960)	2
Eng	523	Eighteenth Century Novel	2
Eng	524	British and Continental Short Story	2
Eng	525	Biography	2
Eng	541	Greek and Roman Literature in Translation	2
Eng	543	Advanced Problems in Public Speaking	2
Eng	550	Literature for the Elementary School	2

HEALTH AND PHYSICAL EDUCATION

Semester credits

HEd	502	Elementary Physical Education Workshop	2
HEd	503	Advanced Aquatics	2
HEd	504	Dance in Education	2
HEd	530	Physiological and Psychological Basis of Motor Activity	2
HEd	540	School Health Problems	2

MUSIC

Semester credits

Mus	560	Study and Appreciation of the Opera	2
Mus	571	Music Criticism and Aesthetics	2
Mus	580	Music in National and International Affairs	2
Mus	590	Study and Appreciation of The Symphony	2
Mus	591	Music in the Romantic Era	2

SOCIAL STUDIES

Semester credits

His	500	Seminar in Contemporary European Cultures	4
His	511	Growth of the American Nation	2
His	512	The United States as a World Power	2
His	522	Twentieth Century Europe	2
His	523	Contemporary World Affairs	2
His	524	Cultures of the Non-Western World	2

PHYSICAL SCIENCE

Semester credits

PSc	507	Recent Advances in Physical Science	3
PSc	532	Space Science	3

* Courses so marked will serve to meet the requirements for Certification in Guidance.

A SUMMARY OF REQUIREMENTS THAT MUST BE MET BEFORE THE MASTER OF EDUCATION DEGREE CAN BE GRANTED

The master of education degree will be granted only upon:

1. Unrestricted admission to candidacy for the Degree.
2. Submission and approval of the professional research thesis in the 30 credit program or satisfactory completion of the 34 credit program.
3. Completion of a minimum of one year of successful teaching experience with at least a "satisfactory" rating assigned by the administrative officer responsible for the supervision of the instructional activities of the degree candidate. Other experience in lieu of this requirement may be accepted upon the recommendation of the Graduate Council.
4. Completion of all graduate courses with the grade of "C" or better and with a total quality point average of 3.00 ("B") or better.
5. Satisfactory performance on a final oral and/or written comprehensive examination conducted by the student's advisory committee in the field of specialization.

ADMISSION TO CANDIDACY FOR THE MASTER OF EDUCATION DEGREE

Graduate students who wish to be admitted to Candidacy for the Master of Education Degree must:

1. Make formal application to the Director of the Division of Graduate Studies.
2. Complete successfully with a grade of "B" or better, at least six semester hours of graduate credit at West Chester State College.
3. Submit transcripts of graduate credit earned at other colleges and universities.
4. Achieve a satisfactory score in the Graduate Record Examination.
5. The applicant must show evidence of academic, personal and professional qualities deemed acceptable by the administrators of the graduate program and the department concerned.
6. The Applicant must have a personal interview with the Director of Graduate Studies.
7. On the basis of the interview and data at hand, the Director or the Department Chairman will draw up a program of studies to be followed by the student. It will include undergraduate deficiencies, if any, as well as minimum requirements in general education, subject areas, and professional education.
8. An adviser will be appointed to direct the graduate work of each student. Generally this will be the Chairman of the major department, or a member of the Graduate Faculty of that department, as designated by the chairman.

COURSE REQUIREMENTS

In order to obtain the degree of Master of Education, the student must complete a minimum of 30 semester hours of credit in the areas listed below. The student, however, should not think of the master's degree in terms of semester credits. He should think, rather, in terms of meeting the standards as established by the Graduate Council and by his major department.

The requirements stated below are the broad general requirements established by the Graduate Council. In addition to these requirements, each department has individual requirements. The student, therefore, should first familiarize himself with the requirements listed below. Then he should turn to the specific section in this bulletin which treats the requirements established by his major department.

Under a ruling of the State Council of Education, the student is required to take 12 semester credits in general or liberal education. These groups — the humanities, social sciences, the natural sciences — should be incorporated into the student's program with the advice and approval of the major department.

I. *Required Courses — All Curricula — 6 Semester Credits*

A.	Hum	500	Seminar in the Humanities	2 s. c.
B.	Res	500	Methods and Materials of Research (This course is Mus. 500, Elem. Edu. 500, Sec. Ed. 500, or H. Ed. 500)	2 s. c.
C.	Edu	510	Educational Foundations	2 s. c.

II. *Area of Specialization — 18 - 24 Semester Credits*

A. Required courses in major field
B. Electives chosen under advisement

III. *Research*

A. Thesis 3 s. c.
B. Supporting electives

Upon approval of the student's major department, the candidate for the master's degree may pursue a program of 34 semester credits in lieu of the thesis program stated above. However, if the major department approves a 34 hour program, it does so with the understanding that the student take certain courses which require specialized research papers. The Department Chairman may exercise the right to require the research report as a part of this requirement.

COURSES REQUIRED IN ALL CURRICULA

As shown under the heading "Course Requirements," there are three courses required of all candidates for the master's degree: Methods and Materials of Research, Educational Foundations, Seminar in the Humanities. Descriptions of these courses follow:

Hum 500 — Seminar in the Humanities 2 s. c.

This is a composite course composed of three major fields or subject matter: (1) art and architecture, (2) music, (3) literature.

This material is closely correlated to show the relationship of the three fields to each other and to the central theme of a general philosophy connecting these fields to life. The instructors teaching this course develop specific material in concert to establish an over-all unity.

Edu 500 — S Ed 500 — H Ed 500 — Mus 500 — Lan 500
Methods and Materials of Research 2 s. c.

A course designed to acquaint the student with the basic techniques and procedures in research, this course treats the major types of research and the methods for locating, evaluating, and interpreting evidence. It also includes the actual preparation of a research paper. This course is given by curriculum (elementary, secondary, music, health and physical education and foreign language) in order to meet the needs of the specific fields.

Ed 510 — Educational Foundations 2 s. c.

The history of education; factual history integrated with educational philosophy and thought; the evolution of present day educational theories and issues from early times.

RESEARCH REPORT AND THESIS

The Research report is part of the requirement of the 34 credit or non-thesis program. It can carry from one to two credits of graduate credit. The Thesis is required of the 30 credit or Thesis Program. It will carry three semester credits. The decision to take the Thesis Program or the Non-thesis program is subject to the approval of the adviser who will consider the question on the basis of the student needs and ability. Each thesis must be accompanied with an abstract of the thesis which will be used for the purpose of publication by the College. All rights and privileges of the author will be protected.

The research report must be aimed at developing the student professionally in his major field. While the thesis must have the same basic aim, it is much more extensive and hence more demanding of the student's time and abilities.

The Graduate Council has defined the research report and thesis as follows:

A *research report* is a written record of a scientific investigation to determine the facts of a condition; hence it is essentially a report on a problem. It demands of the researcher a knowledge of the techniques of research and scientific accuracy.

A *thesis* is the written account of an exhaustive research to support or refute a belief or a hypothesis. It differs from the research report in that it is more comprehensive, and more generally demanding of the writer's knowledge, skills, and general powers of scholarship.

The student who plans to work eventually toward a degree should make his decision early regarding the *research report* or *thesis.* In no case should he defer the matter until a late moment in his course work because the work involved in the report or thesis will undoubtedly extend over two or more semesters.

In thinking of the research report or thesis, the student should take special note of the three statements listed below. These statements represent official policy of the Graduate Council regarding the research report or thesis.

1. The department concerned must approve the research report or thesis as a challenging, soundly executed professional task, worthy of master's level achievement.

2. A detailed outline of the research report or thesis must be approved by the Graduate Council before the student is authorized to begin his investigation.

3. The research report or thesis must be approved by the Department of English for language usage. The Department of English will serve as a reading committee only. In no case is the Department of English to be thought of as an editing committee.

The student must register his decision to do a thesis at the completion of the course entitled Methods and Materials of Research. Thus the student's later selection of courses will be affected in part by his decision regarding this matter.

When the thesis has been approved by the major department, it must be typed and bound in accordance with specifications established by the Graduate Council. These specifications are on file in the offices of the department chairmen. The Form and Style in Thesis Writing by Campbell must be used as a format.

The student who submits a thesis in partial fulfillment of degree requirements must present three bound copies to the Division of Graduate Studies. These must be accompanied with three copies of the abstract. One copy of each will be retained by the Graduate Office and the remaining copies will be given to the college library and the major department.

WITHDRAWALS

Any student withdrawing from a class without official authorization is automatically disqualified from the graduate program. He can be admitted to further graduate study only through application to the Graduate Council.

EXAMINATIONS

As noted in the requirements for admission, examinations vary according to the classification of the student; e.g., degree candidates must pass specific comprehensive examinations. Every graduate student must accept responsibility for knowledge of the examinations required of him. The beginning student can determine the examinations required of him by examining the information listed below and by conferring with his department chairman. In no case shall the student assume that his adviser, major field professor, or graduate program official will notify him.

All students working for a degree are required to take four examinations; the Professional Background Examination, the General Culture Comprehensive Examination, the Admission to Degree Candidacy Examination, and the Area of Specialization Examination. In addition, however, some students will be required to take a general background examination.

An explanation of the examinations and the conditions under which they will be required follows:

1. *Professional Background Examination* — The Professional Background examination is constructed, administered and evaluated by the Department of Education. As the name implies, it is designed to evaluate the candidate's knowledge of the teaching profession. This examination is given in conjunction with the course entitled "Seminar in Educational Foundations."

Because this examination is furnished and graded by an outside agency, a fee of $5.50 is required.

2. *The General Culture Comprehensive Examination* — Every student working for a degree must take as part of the course entitled "Seminar in the Humanities" the General Culture Comprehensive Examination. This examination evaluates the student's background in those areas which are commonly termed "humanities." The results of this examination are used for diagnostic purposes.

3. *The Admission to Degree Candidacy Examination* — The Admission to Degree Candidacy Examination is administered by the Graduate Office and evaluated by the student's major department. This examination must be taken, as stated elsewhere, sometime between the

acquisition of six and eight semester credits. This examination is designed to determine whether the student is to be permitted to work for a degree. The examination is broad and comprehensive in nature, with the basic purpose of evaluating the student's knowledge and general competency in his major field.

The Graduate Record Examination is given as part of this examination.

4. *The Area of Specialization Examination* — All graduate students in the 30-credit (thesis) program must take the departmental comprehensive examination (oral and/or written) when they have taken from 24-30 credits of work. All those in the 34-credit (non-thesis) program must take the departmental comprehensive examination (oral and/or written) when they have taken from 28-34 credits of work.

The Area of Specialization examination is a comprehensive examination over the student's major field. The examination is constructed, administered, and evaluated by the student's major department. All details of the Area of Specialization examination are the province of the major department concerned. Degree candidates are urged to confer with their advisors concerning this examination at the earliest possible date.

The Area of Specialization Examination is usually given after the student completes his research report or thesis.

5. *General Background Examination* — Applicants for graduate courses who, in the opinion of the department concerned, have inadequacies in their undergraduate programs, may be required to take an examination to demonstrate adequacies of general background information. The nature of this examination will be explained to the candidate by his major department.

Any degree candidate student who has not completed six credits in the graduate program prior to June 1, 1963 will be required to take the Graduate Record Examination. Each student should consult with his or her Faculty Adviser as to what specific requirements are to be met.

All graduate students who apply for admission to degree candidacy after June 1, 1963, will be required to take the Graduate Record Examination. Consult the graduate office as to fees and dates for these examinations.

ADVISORY SYSTEM

The applicant for admission to the graduate studies should think of the chairman of his department as his major adviser until such time as an adviser is assigned him.

As soon as the applicant has declared his plans to the chairman of his major department, he will be assigned as the advisee of a professor in his major field.

The student should think of his adviser as a counselor and as a graduate program official. The adviser must approve the student's course selections, he must guide the student in making decisions regarding examinations; and he must check the student's work against graduate studies requirements. Although the adviser will help the student in every way possible, the student, nonetheless, must remember that the responsibility of completing graduate work is primarily his.

LIBRARY

Graduate students are entitled to the use of library facilities under the conditions prevailing in the undergraduate program. The student, therefore, should familiarize himself with library regulations at the earliest possible date.

Because many graduate students are on campus for only one day each week, some special privileges are granted in the borrowing of books. The graduate student however, must realize his obligation to conform with all library regulations. His I. D. or Campus Credit Card will permit him to borrow books from the college library.

HOUSING FACILITIES

Because this college rarely has any full time graduate students during the fall and spring semesters, no provisions for housing for graduate students are made for those semesters. Graduate students attending the summer session may obtain housing in the college dormitories at the usual fees charged to undergraduates.

Graduate students living on campus during the summer sessions are subject to all officially stated regulations concerning housing and related matters.

CULTURAL OPPORTUNITIES

The graduate student should avail himself of the cultural opportunities on campus and in the immediate vicinity. The college sponsors All Star Programs, lectures, entertainments, and other significant cultural activities. The immediate vicinity is rich in historical significance and other cultural advantages. Also, the student will find easy access to Philadelphia and its many museums, libraries, and similar facilities.

EXPENSES

The charge for tuition in the Graduate Program is $20 per semester hour of credit.

Graduate students desiring housing facilities at the college during the summer sessions may procure such facilities at the regular rates listed in the official catalogue.

All fees are due and payable on the day of registration, after which the late fee of $5.00 is applicable.

Car registration $1.00.

Identification Card $1.00.

Graduate students are also required to pay any fees (activity fee, library fines, etc.) required of other summer school students.

All fees are subject to change without notice.

MUSIC FEES

Students in the music curriculum are subject to the schedule of fees listed below.

INSTRUCTION

Piano, Organ, Instrument or Voice
½ hour private lesson ..... $55.00 per semester
Instrument class or Ensemble (minimum class — six)
2 hours per week ..... $35.00 per semester

RENTALS

Any Band or Orchestra Instrument ..... $1.00 per week
(minimum charge — $3.00)

PRACTICE TIME

Piano Room — 2 hours per day ..... $1.00 per week
(minimum charge — $3.00)
Organ Room — 2 hours per day ..... $1.50 per week
(minimum charge — $4.50
Instrumental Room — 2 hours per day ..... $ .50 per week
(minimum charge — $1.50)
(Note: The lesson fees are in addition to the $20.00 semester hour credit fee.)

REFUNDS

1. No portion of the tuition fee shall be refunded if the student has attended one-third or more than one-third of the class periods scheduled during a given semester or session.
2. If a student withdraws from a course, for approved reasons, before one-third of the scheduled class periods have been completed, the student shall then be entitled to a refund of one-half of the tuition fees paid.
3. Refunds will not be made to students who are suspended or dismissed or to students who drop courses without the approval of the Director of Graduate Studies.

NOTE: If a student withdraws completely from courses he is registered for *without attending any classes*, he will receive refund of all but $10.00.

If a student enrolls for two or more courses and drops one (but not all his courses) and does not attend any classes of the course or courses from which he wishes to withdraw, he will receive a full refund.

MARKING SYSTEM

The marking system employed in the graduate program is the same as that of the undergraduate program.

A—Superior
B—Above average
C—Average
D—Passing
F—Failure
I—Incomplete

The following restrictions are enforced in the marking system: (1) the student must maintain a general average of at least 2.5; (2) grades lower than "C" are not acceptable in satisfying degree requirements; (3) courses which, for some valid reason (unavoidable absence during final examination, etc.), are not completed by the end of a given semester, must be completed before the close of the succeeding semester unless the Graduate Council grants an individual exception of this requirement.

RESIDENCE REQUIREMENTS

All courses given by the Division of Graduate Studies are taught on this campus by members of the Graduate Studies faculty. Therefore, students in this graduate program should not expect to take off-campus or extension courses.

This college will accept in transfer only courses taken in residence at other approved graduate schools or courses taught by regular members of the full-time faculty of other approved graduate schools at off-campus centers.

TIME LIMIT

All requirements for the graduate degree, i.e., Master of Education, must have been satisfied within a period of six years before the actual date of receiving the degree. In unusual cases, e.g., prolonged illness, the Graduate Council may make minor exceptions. In no instance, however, should the student assume that such exceptions will be made routinely.

The existence of the six-year time limit makes imperative the settling of all details regarding the research report or thesis and similar matters at the earliest possible date.

REPORTS

Official reports are issued immediately after the termination of each semester for work taken during that semester. The student should consider these reports as an official record of his standing in the graduate program. Students should check these reports against grade requirements and other regulations pertinent to their particular case. When consulting with faculty advisers, students should have these reports at hand in order to facilitate questions which the adviser may have.

ABSENCES

Applicants for graduate courses should realize at the outset the importance of attending all classes. However, because the Graduate Council realizes that emergencies may arise, a policy on absences has been constructed. Hardship cases will be considered individually.

For courses meeting once a week, the student is permitted a maximum of two absences during the semester. In no case should these absences be thought of as "cuts." They should be considered, rather, as allowances for emergency conditions.

No absences are permitted during the summer session.

The student is held fully responsible for all work required for courses taken. Absences from class, therefore, do not constitute a valid reason for exemption from course responsibilities. Students absent from examinations for valid reasons should contact the professor concerned as early as possible in order to make up the examination.

CLASS HOURS

All classes for the graduate program are scheduled during the late afternoon, evening, Saturdays, and summer sessions. As enrollment warrants, the number of classes given during the regular academic year is adjusted accordingly. Most graduate courses, however, are given primarily during the summer sessions.

TRANSCRIPTS

Students wishing transcripts of graduate work at West Chester may obtain such transcripts by communicating directly with the Office of the Registrar. The regulations pertaining to undergraduate transcripts hold for the graduate program also, i.e., students should allow a minimum of one week in requesting transcripts; requests should be made in writing; and all pertinent information (full name, maiden name, curriculum, dates, etc.) should be given.

The cost is $1.00 per transcript. Checks should be made payable to the Commonwealth of Pennsylvania.

SUSPENSION OF CLASSES BECAUSE OF WEATHER

The official calendar for the Graduate Program lists the class meeting dates for each session. This calendar is distributed to faculty and posted on the official bulletin boards every semester.

All classes meet on these days, regardless of weather conditions. However, this policy has been instituted with the understanding that students need not take undue risks in order to travel.

Students absent because of weather conditions must assume responsibility for all work missed.

PLACEMENT SERVICE

Every year the College Placement Service is notified of many positions of all types on all levels of instruction. Because many of these positions offer unusual opportunities for professional advancement, graduate students are encouraged to use the services of the Placement Office.

All students pursuing graduate work at West Chester are eligible for the use of limited services provided by the Placement Service. Students who have completed less than 15 semester credits have access to the listings of vacancies. Students who hold undergraduate degrees from West Chester and/or have completed 15 semester credits of graduate work are eligible for the full services of the Placement Service. The term "full services" includes registration, development of a complete set of credentials, and mailing of credentials to prospective employers.

There is no charge for the use of the Placement Service. Students wishing further information should visit the Placement Office. The office is open from 9 - 5 on weekdays and from 9 - 12 on Saturdays.

OFFICE HOURS

The Graduate Office is located in room 126 on the second floor of Recitation Hall. During the academic year, office hours are from 8:30 - 12:00 noon and from 1:00 - 5:00 P.M. daily, Monday through Friday. The office is open on the fourth Saturday morning of each month from 9:00 - 12:00 noon. Summer hours are from 8:00 - 12:00 noon and from 1:00 - 4:30 P.M. The office is also open on the fourth Saturday morning of each month from 9:00 - 12:00 noon.

FOR INFORMATION CALL —

WEST CHESTER 692 - 3210

EXTENSION 465, 468

Bulletin

WEST CHESTER STATE COLLEGE

WEST CHESTER, PENNSYLVANIA

Graduate Studies

CATALOGUE NUMBER
SUMMER SESSIONS
1965

ADMINISTRATIVE OFFICERS

President ..... Earl F. Sykes

Academic Affairs

Dean of Academic Affairs ..... Walter J. Gale
Director of the Graduate Program ..... Willard J. Trezise
Director of the Undergraduate Program ..... Emil H. Messikomer
Director of the Liberal Arts Program ..... Kenneth C. Slagle
Assistant to the Dean of Academic Affairs ..... Arnold Fletcher
Director of Admissions (Undergraduate) ..... B. Paul Ross
Assistant Director of Admissions (Undergraduate) F. William Leeds
Registrar ..... Helen E. Shippee
Head Librarian ..... Joseph K. Hall
Principal of the Demonstration School ..... Gerald F. Cartright
Director of Student Teaching and Placement ..... Mark M. Evans
Director of Research ..... Milton C. Woodlen

Student Affairs

Dean of Student Affairs ..... Jack A. Owens
Assistant to the Dean of Student Affairs ..... William R. Benner
Dean of Women ..... Bernice H. Bernatz
Assistant Dean of Women ..... Florence B. Ingram
Dean of Men ..... W. Glenn Killinger
Assistant Dean of Men ..... Robert M. Mitten
Director of the Student Activities Association ..... Frank E. Peterson
Director of Athletics ..... Robert W. Reese

Administrative Affairs

Dean of Administration ..... Kenneth R. Widdall
Business Manager ..... Everett E. Shaefer
Superintendent of Buildings and Grounds ..... Herbert Clavier
Assistant to the Superintendent
of Buildings and Grounds ..... William A. Peoples

Public Relations and College Publications

Director of Public Relations
and College Publications ..... William Houpt

GRADUATE COUNCIL

Earl F. Sykes, B.A., M.A., Ed.D. _____ President

Walter J. Gale, B.S., M.S., Ed.D. _____ Dean of Academic Affairs

Willard J. Trezise, B.S., M.S., Ph.D. __ Director of Graduate Studies

Arnold Fletcher, B.S., M.Ed., Ed.D.
Staff Assistant to the Dean of Academic Affairs

Harold W. Benda, B.A., M.A., Ed.D.
Chairman of the Department of Education

Powell S. Thomas, B.A., M.A., Ph.D.
Coordinator of the Department of English

John E. C. Dorchester, B.A., M.A., Ph.D.
Coordinator of Biological Sciences

Russell K. Rickert, B.S., M.S., Ed.D.
Acting Chairman of the Department of Science

Albert E. Filano, B.S., M.S., Ph.D.
Chairman of the Department of Mathematics

Edward G. Everett, B.S., M.A., Ph.D.
Coordinator of the Department of Social Science

Alvin S. Keinard, B.A., M.Ed., Ed.D.
Chairman of the Department of Geography

Lloyd C. Mitchell, B.Mus., M.M., Ed.D.
Chairman of the Department of Music

Albert D. Roberts, B.S., M.A., Ph.D.
Chairman of the Department of Foreign Languages

Edwin L. Youmans, B.A., M.A., Ph.D.
Coordinator of the Department of Health and Physical Education

WEST CHESTER STATE COLLEGE

West Chester State College is accredited by the Middle States Association of Colleges and Secondary Schools; the National Council for Accreditation of Teacher Education; the American Association for Health, Physical Education and Recreation; and the National Association of Schools of Music.

Modern and adequate science laboratories, instructional equipment, and classroom facilities are provided.

The annual All-Star Course brings to the campus some of the world's most famous artists in the fields of music, drama and dance. Among these have been the Pittsburgh, Detroit, National, Cleveland and Minneapolis Symphony Orchestras, the Canadian Players, the Singing Boys of Norway, George London, Isaac Stern, Carmen Amaya, Roberta Peters, the Jose Limon Dance Company, Brian Sullivan, Maureen Forrester, the Columbus Boys' Choir, Blanche Thebom, Jerome Hines, the Dublin Gate Theatre, the Chicago Opera Ballet, and the Robert Shaw Chorale.

The William Pyle Philips Lecture Foundation brings to the campus lecturers who are leaders in the fields of literature, science and world affairs. Among these have been Madame V. L. Pandit, Arnold Toynbee, Harrison Salisbury, Loren Eiseley, Daniel Schorr, Ashley Montague, Walter Sullivan, Robert Frost, Bennett Cerf, Max Lerner and William Teller.

The college Assemblies, which are held approximately twice each month, provide the students, faculty and citizens of the community with an additional series of cultural and professional programs.

In addition to regular courses for preparing Elementary and Secondary teachers, West Chester has two special curricula preparing teachers in Music and Health and Physical Education.

The College offers Liberal Arts curricula in Humanities, Social Sciences, and Natural Sciences leading to a Bachelor of Arts degree.

The College maintains an active Placement Service without cost to graduates.

SUMMER SESSIONS

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GENERAL STATEMENT

The twelve-week summer sessions are divided into three periods: the Pre Session of three weeks, the Regular Session of six weeks, and the Post Session of three weeks. The schedule includes courses for regular college students, and a number of special offerings for teachers in service.

West Chester State College is located in the beautiful residential town of West Chester, near the historic Brandywine and Valley Forge. Students enjoy the added advantage of easy access to Philadelphia, New York, and Atlantic City.

The College provides for its wide area of service a modern, progressive, and constantly expanding co-educational program. The major aim of the program is the preparation of teachers particularly for the public schools of the Commonwealth of Pennsylvania. Students who have attended summer sessions at West Chester know it is an ideal place to combine serious study with wholesome recreation and student life.

SOCIAL AND RECREATIONAL PROGRAM

A summer at West Chester gives the student an opportunity to pursue college work under the most favorable conditions. The tree-shaded campus, with its conveniently located buildings, provides a beautiful and restful environment.

Opportunities for recreation are many: softball, tennis, swimming, and other recreational activities. Social hours, when the students may talk informally with their professors, are a feature of the Pre and Post Sessions.

The borough and vicinity of West Chester are beautiful and at the same time provide material for study and research in history, science, and the arts. Philadelphia excels in scenic and historic interest, and special trips to the city will be arranged for those interested in taking advantage of these opportunities.

Seeing the world-famous fountains at Longwood Gardens, picnicking and canoeing on the Brandywine, taking advantage of the best in music, art, and the theatre — these are some of the events that make a summer at West Chester much to be desired.

GENERAL INFORMATION

CREDITS

Credits for the summer session may be earned at the rate of one semester hour per week of work; thus, a student attending all three sessions may earn 10 to 12 credits.

Students will not be permitted to carry more than six semester hours of work in the Regular Session unless permission to do so has been secured in advance from the Director of Graduate Studies.

HOUSING

There will be adequate housing available for all men and women students for all three summer sessions. The College is unable, however, to provide housing for married students and their families.

After filing an application for admission to the Summer Sessions with the Admissions Office, room reservations should be made through a **written application** to either the Dean of Women's or the Dean of Men's Office **one week prior to the opening** of each session.

Rooms may be occupied after 2:00 P.M. on the Sunday preceding each session.

COLLEGE REGULATIONS

The same college regulations pertaining to student procedure and conduct in effect during the academic year at West Chester State College are effective for the three summer sessions.

ENROLLMENT

Classes will be held in the courses offered subject to enrollment.

CLASS MEETINGS

Pre-summer session. After registration day, each class will meet as scheduled from 4:15 P.M. to 10:00 P.M. each evening Monday through Thursday for three weeks. It will not be possible for a student to carry more than one course during this time.

Regular Session. Classes begin on Tuesday and meet once daily (unless otherwise indicated) at the time stated in the schedule.

The schedule for classes during the Regular Session will operate on Daylight Saving Time as follows:

8:00- 9:30 First Period
9:30-11:00 Second Period
11:00-12:30 Third Period
12:30- 1:30 Luncheon
1:30- 3:00 Fourth Period

Post-Session. After registration day, each class will meet twice daily, 8:00-9:30 A.M. and 10:30-12:00 A.M. The hours from 9:30-10:30 is for rest, library work or recreation. It will not be possible for a student to carry more than one course in this session. All courses meet for three weeks.

EXPENSES

The charge for tuition in the Graduate Program is $20 per semester hour of credit.

Graduate students desiring housing facilities at the college during the summer sessions may procure such facilities at the regular rates listed in the official catalogue.

All fees are due and payable on the day of registration, after which the late fee of $5.00 is applicable.

Car registration $1.00.

Identification Card $1.00.

Graduate students are also required to pay any fees (activity fee, library fines, etc.) required of other summer school students.

All fees are subject to change without notice.

MUSIC FEES

Students in the music curriculum are subject to the schedule of fees listed below.

INSTRUCTION

Piano, Organ, Instrument or Voice
½ hour private lesson _____ $55.00 per semester
Instrument class or Ensemble (minimum class — six)
2 hours per week _____ $35.00 per semester

RENTALS

Any Band or Orchestra Instrument _____ $1.00 per week
(minimum charge — $3.00)

PRACTICE TIME

Piano Room — 2 hours per day _____ $1.00 per week
(minimum charge — $3.00)
Organ Room — 2 hours per day _____ $1.50 per week
(minimum charge — $4.50
Instrumental Room — 2 hours per day _____ $ .50 per week
(minimum charge — $1.50)
(Note: The lesson fees are in addition to the $20.00 semester hour credit fee.)

*FEES

Housing Fee for the Regular Summer Session.

The housing fee for students is $102. This includes room and meals.

Student Activity Fee is $3.50.

Housing Fee for Pre and Post Sessions:

The housing fee for Pre and Post Sessions is $51.00 for each session. The fee includes room and meals.

The Student Activity Fee for Pre and Post Sessions is $1.75 for each session.

REFUNDS

1. No portion of the tuition fee shall be refunded if the student has attended one-third or more than one-third of the class periods scheduled during a given semester or session.
2. If a student withdraws from a course, for approved reasons, before one-third of the scheduled class periods have been completed, the student shall then be entitled to a refund of one-half of the tuition fees paid.
3. Refunds will not be made to students who are suspended or dismissed or to students who drop courses without the approval of the Director of Graduate Studies.

NOTE: If a student withdraws completely from courses he is registered for **without attending any classes,** he will receive refund of all but $10.00.

If a student enrolls for two or more courses and drops one (but not all his courses) and does not attend any classes of the course or courses from which he wishes to withdraw, he will receive a full refund.

MARKING SYSTEM

The marking system employed in the graduate program is the same as that of the undergraduate program.

A—Superior
B—Above average
C—Average
D—Passing
F—Failure
I—Incomplete

The following restrictions are enforced in the marking system: (1) the student must maintain a general average of at least 2.75; (2)

* These fees are subject to change without notice. All charges for a session must be paid on the day of registration.

grades lower than "C" are not acceptable in satisfying degree requirements; (3) courses which, for some valid reason (unavoidable absence during final examination, etc.), are not completed by the end of a given semester, must be completed before the close of the succeeding semester unless the Graduate Council grants an individual exception of this requirement.

RESIDENCE REQUIREMENTS

All courses given by the Division of Graduate Studies are taught on this campus by members of the Graduate Studies faculty. Therefore, students in this graduate program should not expect to take off-campus or extension courses.

This college will accept in transfer only courses taken in residence at other approved graduate schools or courses taught by regular members of the full-time faculty of other approved graduate schools at off-campus centers.

PLACEMENT SERVICE

Every year the College Placement Service is notified of many positions of all types on all levels of instruction. Because many of these positions offer unusual opportunities for professional advancement, graduate students are encouraged to use the services of the Placement Office.

All students pursuing graduate work at West Chester are eligible for the use of limited services provided by the Placement Service. Students who have completed less than 15 semester credits have access to the listings of vacancies. Students who hold undergraduate degrees from West Chester and/or have completed 15 semester credits of graduate work are eligible for the full services of the Placement Service. The term "full services" includes registration, development of a complete set of credentials, and mailing of credentials to prospective employers.

There is no charge for the use of the Placement Service. Students wishing further information should visit the Placement Office. The office is open from 9-5 on weekdays.

OFFICE HOURS

The Graduate Office is located in room 109 on the first floor of Anderson Hall. During the academic year, office hours are from 8:30-12:00 noon and from 1:00-5:00 P.M. daily, Monday through Friday. The office is open on the fourth Saturday morning of each month from 9:00-12:00 noon. Summer hours are from 8:00-12:00 noon and from 1:00-4:30 P.M. The office is also open on the fourth Saturday morning of each month from 9:00-12:00 noon.

FOR INFORMATION CALL—
WEST CHESTER 692-3210
EXTENSION 455, 456, 457

REGISTRATION PROCEDURES

for

GRADUATE STUDENTS

Pre Session
Monday, June 7
3:00 - 5:00 P.M.

Regular Session
Monday, June 28
8:30 A.M. - 11:30 A.M.
1:30 P.M. - 3:30 P.M.

Post Session
Monday, August 9
8:30 A.M. - 11:30 A.M.
1:30 P.M. - 3:30 P.M.

Registration for each summer session will be held in Swope Hall on the opening day of each session.

The College will operate on Daylight Saving Time.

All Graduate Students **must** Pre-Register for courses taken during the Summer Sessions (Pre, Regular and Post). Pre-Registrations will end at 4:30 P.M. on the Wednesday prior to each Registration date. (Registration and payment dates are June 7 for Pre; June 28 for Regular; and August 9 for Post).

Graduate Students failing to comply with pre-registration will be subjected to a late Pre-Registration fee of $10.00. Other fees are: Change of Course Fee — $5.00; Late Payment Fee — $1.00 (Summer only). ALL FEES ARE DUE AND PAYABLE ON THE GENERAL REGISTRATION AND PAYMENT DATE.

Station I — Graduate Admissions

All Graduate Students who have not been accepted in the Graduate Studies Program will report to the Director of Graduate Studies in Room S-1 to fill out application forms for admittance. These forms must be completed before a student can register. Two official copies of the undergraduate transcript must be on file for all new students taking graduate work before they can receive grades.

Station II — Activity Fees

All students must pay the Activity Fee in the Student Lounge prior to registering. Pre-Session, $1.75; Regular Session, $3.50; Post Session, $1.75.

Station III — Graduate Registration

Students will report to Room Brass 9, S-5, S-6, S-7 and S-8 for registration forms. These rooms are marked Music, Health and Physical Education, Elementary Education, and Secondary Education, respectively.

Please fill in the registration forms with a special pencil and have them signed by your department chairman.

Station IV — Choral Room

All graduate students will report to the Choral Room to secure "Permit to Attend Class" cards. If you have pre-registered, go to the table marked "Pre-Registration." If you have not pre-registered, go to the table marked "Course Openings." **If you plan to graduate next year, please fill in the necessary forms available at this station.**

Station V — Main Lobby

Graduate Students must secure Dean of Men's or Dean of Women's cards.

Station VI — Swope Auditorium

Complete All Forms.

Station VII — Dean of Men and Dean of Women

Please turn in Deans' cards here.

Station VIII — Stage of Swope Auditorium

Graduate Students check-out tables are located here. When you leave Swope Auditorium, you should have your "Permit-to-Attend-Class" card or cards.

Station IX — Automobile Registration on Swope Stage

All automobiles must be registered with the Security Police. This sticker is valid until September, 1965. Pre-Session, $ .50; Regular Session, $ .50; Post Session, $ .25.

Station X — Band Room

All graduate students will pay credit fees here. Graduate fees are $20.00 per credit.

Station XI — Anderson Hall R - 11

All Graduate Students who have no I.D. cards must obtain them here. The cost is $1.00.

GRADUATE PROGRAM

West Chester State College offers a graduate program leading to the degree of Master of Education. Degrees can be obtained in one of ten fields: Elementary, Music, Health and Physical Education, English, Mathematics, Biology*, Foreign Language*, Physical Science*, Social Science, and Geography.

The program is designed exclusively for persons engaged in classroom teaching. Each of the ten fields in which the student can specialize places its emphasis, therefore, on developing the student's background for his actual teaching.

The basic requirements for the degree are: 30 semester credits, 18 of which must be in the student's area of specialization; the writing of a research report or thesis; and an acceptable overall average. The time limit for earning the degree is six years. Students may transfer a maximum of six semester credits from other accredited graduate schools.

The graduate program at West Chester is fully accredited by the Middle States Association of Colleges and Secondary Schools; the National Council of Accreditation of Teacher Education; the National Association of Schools of Music; and the American Association for Health, Physical Education and Recreation.

The charge for Tuition in the Graduate Program is $20 per semester hour of credit. Graduate students desiring housing facilities during the summer sessions may procure such facilities at the regular rates listed on pages 7 and 8. All fees are due and payable on the day of registration, after which the late fee is applicable. Graduate students are also required to pay any fees (activity fee, library fines, etc.) required of other summer school students, as well as the late registration fee if the latter fee is applicable. All fees are subject to change without notice.

For a bulletin of information or for application for admission to the summer or other sessions, write:

Dr. Willard J. Trezise, Director of the Graduate Program
West Chester State College
West Chester, Pennsylvania

IT SHOULD BE NOTED THAT ALL COURSES OFFERED IN THE GRADUATE PROGRAM, WHEN TAKEN AS PART OF AN APPROVED PROGRAM, MAY BE APPLIED TOWARD PERMANENT CERTIFICATION.

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* Program dependent upon final approval by D. P. I.

GRADUATE PROGRAM OFFERINGS

Master's Degree **Certification** **Personal Growth**

PRE-SESSION

June 7 - 25

Registration: Saturday, June 5, 1965
8:30 - 11:30 A.M.
Swope Hall

Classes begin Monday, June 7, 1965 as scheduled. Monday through Thursday for three weeks. 7:00 - 9:30 (2 credit courses)
6:00 - 9:30 (3 credit courses)

BIOLOGY

Bio	516	Physiology of Plants Dr. Townsley (204)	3 s. c.
Bio	526	Experimental Biology I Dr. Dorchester (R-112)	3 s. c.

EDUCATION

Edu	517	Curriculum Problems in the Elementary School Mr. Studenmund	2 s. c.
Edu	529	The Production of Non-Projected Still Materials Dr. Weagley	2 s. c.

ENGLISH

Eng	550	Literature for Elementary School Mrs. Smith	2 s. c.

FOREIGN LANGUAGE

Lan	503	Techniques of Language Teaching Dr. Roberts	2 s. c.

GEOGRAPHY

Geo	540	Geography of the United States Dr. Keinard	3 s. c.
Geo	546	Geography of the Soviet Union Dr. Langdon	3 s. c.

HEALTH AND PHYSICAL EDUCATION

HEd	501	Advanced Rhythmical Foreign Gymnastics Mr. Davis	2 s. c.
HEd	540	School Health Problems Dr. Cottrell	3 s. c.
HEd	550	Foundations and Principles of Health, Physical Education and Recreation Dr. Sturzebecker	3 s. c.
HEd	570	Curriculum Development in Health and Physical Education Dr. Youmans	3 s. c.

MATHEMATICS

Mat	500	Methods and Materials of Research in Mathematics Education Mr. Weiss	2 s. c.

MUSIC

Mus	519	Music Appreciation in the General Music Program Dr. Antonowich	2 s. c.

PHYSICAL SCIENCE

Sci	500	Philosophy of Science Dr. Muehlmann	3 s. c.

SOCIAL SCIENCES

His	543	French Revolution and Napoleonic Era: 1789-1815 Dr. Carlson	2 s. c.
Eco	531	Comparative Economic Systems Dr. Schooler	2 s. c.

GRADUATE PROGRAM OFFERINGS
REGULAR SESSION

June 28 - August 6

Registration: Monday, June 28, 1965
8:30 - 11:30 A.M. and 1:30 - 3:30 P.M.
Swope Hall

Classes begin Tuesday, June 29 at 8:00 A.M.

Classes meet Monday - Friday at stipulated time
Two credit courses meet one hour daily
Three credit courses meet one and a half hours daily

All Curricula

8:00 - 9:00 A.M.

Hum	500	Humanities (Sec. A) Dr. Mitchell and Dr. Slagle	2 s. c.
Edu	510	Educational Foundations (Sec. A) Dr. Bannon or Mr. Mississyan	2 s. c.

11:00 - 12:00 Noon

Hum	500	Humanities (Sec. B) Dr. Antonowich and Dr. Jordan	2 s. c.
Edu	510	Educational Foundations (Sec. B) Dr. Bannon or Mr. Mississyan	2 s. c.

European Tour

SSc	500	Seminar in Contemporary European Culture (Student European Tour) Dr. Carlson	4 s. c.

FIRST PERIOD: 8:00 - 9:00 A.M.

Edu	500	Methods and Materials of Research (Elem.) Dr. Hill	2 s c.
Mus	500	Methods and Materials of Research (Music) Dr. Fletcher	2 s. c.
HEd	500	Methods and Materials of Research (H. Ed.) Dr. Youmans	2 s. c.
Res	500	Methods and Materials of Research (Secondary) Dr. Berry	2 s. c.
Eng	538	Melville-Hawthorne Dr. Bailey	2 s. c.
Edu	506	The Junior High School Dr. Benda	2 s. c.
Mus	583	Music in the Baroque Period Dr. Johns	2 s. c.
Mus	586	Vocal Diction Miss Sheppard	2 s. c.
Mus	588	Research Seminar Mr. Sprenkle (and by appointment)	2 s. c.

FIRST PERIOD: 8:00 - 9:30 A.M.

Bio	519	History of Biology Dr. Dorchester or Mr. Skillen	3 s. c.
Bio	595	Elementary Science Curriculum and Instruction Staff	3 s. c.
PSc	532	Problems in International Relations Dr. Harding	3 s. c.
His	524	Cultures of the Non-Western World Dr. Everett	3 s. c.
Geo	549	Geography of Africa Mr. Hawthorne	3 s. c.
HEd	531	Adapted Physical Education Workshop Mr. Norris	3 s. c.

9:00 A.M.-3:00 P.M. (3 Weeks)

HEd	541	School Community Health Education Workshop Dr. Cottrell	3 s. c.

SECOND PERIOD: 9:00 - 10:00 A.M.

Mus	523	Advanced Band Arranging Dr. Wright	2 s. c.
Mus	560	Study and Appreciation of the Opera Mr. Middleton (Open to all Graduate Students)	2 s. c.
Mus	581	Accompanying Mr. Whitten	2 s. c.
Mus	590	Study and Appreciation of the Symphony Dr. Johns (Open to all Graduate Students)	2 s. c.

SECOND PERIOD: 9:30 - 10:30 A.M.

Eng	551	English Literary Criticism Dr. Binney	2 s. c.
Edu	501	Foundations of Reading Mr. Habecker	2 s. c.
Edu	530	Selection and Effective Utilization of A-V Materials Dr. Weagley	2 s. c.
HEd	591	Non Thesis Seminar Dr. Youmans	2 s. c.

SECOND PERIOD: 9:30 - 11:00 A.M.

Bio	514	Plant Pests and Diseases Dr. Townsley	3 s. c.
Bio	527	Experimental Biology II Dr. Trezise	3 s. c.
Mat	514	Topology Staff	3 s. c.
Fre	521	Moliere Dr. Roberts	3 s. c.
PSc	513	Modern Physics Dr. Rickert	3 s. c.
HEd	561	Measurement and Evaluation in Health, Physical Education and Recreation Mr. Lorback	3 s. c.

SECOND PERIOD: 10:00 - 11:00 A.M.

His	531	The Renaissance Dr. Schalck	2 s. c.
Eco	533	Teaching Economics in the Secondary Schools Dr. Schooler	2 s. c.
Eng	528	Milton Dr. Jordan	2 s. c.
Geo	584	Seminar in Geographic Research Dr. Langdon	2 s. c.
Mus	511	Administration of Public School Music Dr. Antonowich	2 s. c.
Mus	514	Pedagogy of Music Theory Dr. Wilkinson	2 s. c.
Mus	515	Marching Band Techniques and Materials Mr. Carson	2 s. c.
Mus	571	Music Criticism and Aesthetics Dr. Jones (Open to all Graduate Students)	2 s. c.
Gui	567	Group Guidance Mr. Recktenwald	2 s. c.
Edu	561	Guidance in the Elementary School Dr. King	2 s. c.

10:00 - 12:00 Noon

His	526	Workshop in World Cultures Mr. Shaffer	2 s. c.

THIRD PERIOD: 11:00 - 12:30 P.M.

Bio	544	Vertebrate Dissection Dr. Dorchester or Mr. Skillen	3 s. c.
Mat	514	Theory of Numbers Staff	3 s. c.
PSc	532	Space Science Dr. Rickert	3 s. c.
Ger	530	German Literature of the Reformation Mr. Kulhanek	3 s. c.
Spa	532	19th Century Spanish Literature Mr. Lombardi	3 s. c.
Geo	526	Urban Geography Mr. Bielski	3 s. c.

THIRD PERIOD: 11:00 - 12:00 Noon

His	516	Recent American Diplomatic History Dr. Everett	2 s. c.
Eng	533	Romantic Prose and Poetry Mr. Clokey	2 s. c.

Mus	507	Vocal Literature Mr. Sweet	2 s. c.
Mus	566-569	Ensemble and/or Orchestra Dr. Johns	1 s. c.
Edu	523	Supervision in the Elementary School (Formerly Organization and Supervision of the Elementary School) Mr. Studenmund	2 s. c.
Edu	526	Programmed Instruction Mr. Redmond	2 s. c.
Edu	513	Teaching the Communication Skills Mrs. Kulp	2 s. c.
HEd	502	Elementary Physical Education Workshop Mr. Wilkinson	2 s. c.

THIRD PERIOD: 11:30 - 12:30 P.M.

HEd	530	Physiological and Psychological Basis of Motor Activity Mr. Norris	3 s. c.
HEd	503	Advanced Aquatics Dr. Twardowski	2 s. c.
HEd	520	Advanced Coaching Mr. Lorback	3 s. c.

FOURTH PERIOD: 1:00 - 2:00 P.M.

Mus	504	Advanced Instrumental Conducting Mr. Middleton	2 s. c.
Edu	590	School Law Dr. Micken	2 s. c.
Edu	537	Creative Expression in the Elementary School Mrs. Kulp	2 s. c.
Edu	542	Curriculum Development for Culturally Disadvantaged Children Mr. Leeds	2 s. c.

FOURTH PERIOD: 2:00 - 3:00 P.M.

Mus	536-537	Vocal Ensemble and/or Chorus Dr. Jones	1 s. c.
Mus	566-569	Ensemble and/or Band Mr. Carson	1 s. c.

By appointment only:

Mus	561-565	Advanced Instruments (Instrumental Staff)	1 s. c.
Mus	531-535	Advanced Voice (Voice Staff)	1 s. c.
Mus	541-551	Advanced Piano (Piano Staff)	1 s. c.

By arrangement:

HEd	511	Field Problems in Recreation Mr. Davis	2 s c.

National Science Foundation Summer Institute in Mathematics

Foundations of Algebra for Junior High School Teachers
Foundations of Geometry for Junior High School Teachers
Seminar in the Teaching of Junior High School Mathematics

Admission to this program is limited to those granted National Science Foundation stipends. For further information contact Dr. Albert E. Filano, Chairman, Mathematics Department.

The Deadline for submission of applications is February 15, 1965.

GRADUATE PROGRAM OFFERINGS
POST SESSION

August 9 - August 27

Registration: Monday, August 9, 1965
8:30 - 11:30 A.M. and 1:30 - 3:30 P.M.
Swope Hall

Classes begin Tuesday, August 10, 1965

Classes meet Monday - Friday as scheduled

Three credit courses will meet from 8:00 - 9:30 A.M. and from 10:30 - 12:00 P.M. for three weeks.

Two credit courses will meet from 8:00 - 9:00 A.M. and from 10:00 - 11:00 A.M. for three weeks.

ALL CURRICULA

Hum	500	Humanities Dr. Mitchell and Dr. Slagle	2 s. c.

BIOLOGY

Bio	522	Wild Life and Man Staff	3 s. c.
Bio	543	Freshwater Biology Staff	3 s. c.

EDUCATION

Edu	528	Production of Projected Still Materials Dr. Weagley	2 s. c.
Edu	521	Analysis, Diagnosis and Correction of Reading Difficulties Mr. Habecker	2 s. c.
Edu	525	The Teacher and Administrative Leadership Mr. Cartright	2 s. c.
Edu	532	Photography for Teachers Mr. Redmond	2 s. c.
Edu	533	Television in Education Mr. Strayer	2 s. c.
Edu	566	The Activity Program in the Secondary School Dr. Bonder	2 s. c.

ENGLISH

Eng	534	Nineteenth Century American Prose Dr. Berry	2 s. c.
Eng	529	Victorian Prose Dr. Thomas	2 s. c.

FOREIGN LANGUAGE

Lan	504	Language Laboratory Techniques Mr. Lombardi	2 s. c.

GEOGRAPHY

Geo	503	General Climatology Dr. Keinard	3 s. c.
Geo	523	Conservation of Natural Resources Workshop Staff	3 s. c.

HEALTH AND PHYSICAL EDUCATION

HEd	562	Administrative and Supervisory Practises in Health and Physical Education Dr. Sturzebecker	3 s. c.
HEd	521	Administration and Supervision of Interschool and Intramural Athletics Dr. Cottrell	3 s. c.

MATHEMATICS

Mat	501	Fundamental Concepts of Mathematics for the Elementary Teacher Staff	2 s. c.

MUSIC

Mus	510	Current Trends in Music Education Dr. Antonowich	2 s. c.
Mus	585	String Literature and Pedagogy Dr. Johns	2 s. c.

PHYSICAL SCIENCE

Sci	501	Historical Geology Dr. Greenberg	3 s. c.

SOCIAL SCIENCES

His	512	Civil War and Reconstruction: 1850-1876 Dr. Drayer	2 s. c.
Ant	530	Problems in Anthropology Mr. Radetsky	3 s. c.

West Chester State College Bulletin
WEST CHESTER, PENNSYLVANIA

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Summer Sessions 1965

GRADUATE

Courses for Permanent Certification